

Systematic Review

Heterogeneity and Risk of Bias in Studies Examining Risk Factors for Severe Illness and Death in COVID-19: A Systematic Review and Meta-Analysis

Abraham Degarege *, Zaeema Naveed, Josiane Kabayundo and David Brett-Major

Department of Epidemiology, College of Public Health, University of Nebraska Medical Center, Omaha, NE 68198, USA; zaeema_arif@hotmail.com (Z.N.); josiane.kabayundo@unmc.edu (J.K.); david.brettmajor@unmc.edu (D.B.-M.)

* Correspondence: abraham.mengist@unmc.edu; Tel.: +1-402-552-6682

Abstract: This systematic review and meta-analysis synthesized the evidence on the impacts of demographics and comorbidities on the clinical outcomes of COVID-19, as well as the sources of the heterogeneity and publication bias of the relevant studies. Two authors independently searched the literature from PubMed, Embase, Cochrane library, and CINAHL on 18 May 2021; removed duplicates; screened the titles, abstracts, and full texts by using criteria; and extracted data from the eligible articles. The variations among the studies were examined by using Cochrane, Q ; I^2 , and meta-regression. Out of 11,975 articles that were obtained from the databases and screened, 559 studies were abstracted, and then, where appropriate, were analyzed by meta-analysis ($n = 542$). COVID-19-related severe illness, admission to the ICU, and death were significantly correlated with comorbidities, male sex, and an age older than 60 or 65 years, although high heterogeneity was present in the pooled estimates. The study design, the study country, the sample size, and the year of publication contributed to this. There was publication bias among the studies that compared the odds of COVID-19-related deaths, severe illness, and admission to the ICU on the basis of the comorbidity status. While an older age and chronic diseases were shown to increase the risk of developing severe illness, admission to the ICU, and death among the COVID-19 patients in our analysis, a marked heterogeneity was present when linking the specific risks with the outcomes.

Keywords: COVID-19; severe illness; death; demographics; comorbidities



Citation: Degarege, A.; Naveed, Z.; Kabayundo, J.; Brett-Major, D. Heterogeneity and Risk of Bias in Studies Examining Risk Factors for Severe Illness and Death in COVID-19: A Systematic Review and Meta-Analysis. *Pathogens* **2022**, *11*, 563. <https://doi.org/10.3390/pathogens11050563>

Academic Editor: Lawrence S. Young

Received: 3 April 2022

Accepted: 5 May 2022

Published: 10 May 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

While the numbers of cases and deaths during the COVID-19 pandemic are a moving target, over half a billion persons have been infected worldwide, with more than 6 million deaths as of 1 May 2022 [1]. The disease outcomes from SARS-CoV-2 infection may vary, which is due to a range of health and demographic factors [2–4]. Indeed, several meta-analyses studies have correlated hypertension, cardiovascular disease, an older age, and the male sex with severe illness and mortality in COVID-19 patients [5–19]. However, the associations with other comorbidities have been less clear, such as with cancer, chronic liver disease, diabetes, and kidney disease. While several meta-analyses studies report an increased risk of death in COVID-19 patients with diabetes [5,11,19], cancer [20–22], liver disease [23–25], and kidney disease [26–29], some report the lack of correlation between these comorbidities and the disease progression or the clinical outcomes of COVID-19 patients [30–32].

Previous meta-analyses studies have mainly been based on articles that were published in 2020 and that reflect high levels of heterogeneity and publication bias. Some of the used data were non-peer-reviewed or they originated only from one country, and some analyzed small numbers of articles. This adds to the uncertainty as to the effects of the comorbidities and the sociodemographic status on COVID-19-related outcomes.

The relevant literature that is important to incorporate into systematic reviews on COVID-19 continues to grow as our collective experience with the disease grows. A better understanding of both the striking and subtle variations in patients, and of their circumstances and their experiences with SARS-CoV-2 infection, would inform the continued development of improved interventions to reduce the morbidity and mortality from COVID-19. In addition, knowledge of the sources of heterogeneity and publication bias guide the strategies for combining articles in meta-analyses to accurately estimate the predictors of severe illness and death in COVID-19 patients. Therefore, by following the PRISMA guidelines, we systematically summarized and assessed literature published before 18 May 2021 in order to provide updated data on the role of comorbidities in COVID-19-related clinical outcomes and deaths. Where appropriate to the data, we conducted a meta-analysis of the risk factors of severe illness, admission to the ICU, and death among COVID-19 patients, and we assessed the sources of heterogeneity and publication bias among the studies.

2. Materials and Methods

2.1. Protocol and Registration

A protocol that was developed and that followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist guided the execution and the reporting of this meta-analysis (Table S1) [33]. The protocol is registered in the PROSPERO international prospective register of systematic reviews (ID = CRD42020184440) [34].

2.2. Inclusion and Exclusion Criteria

All retrospective, cross-sectional, and prospective clinical and epidemiological studies, except for individual case studies (comprehensive inclusion case series were allowed) that reported the prevalence or odds of death, severe illness, or admission to the ICU, and that were stratified by the comorbidities or the demographic status among COVID-19 patients, were included in the meta-analysis. Unpublished studies and non-peer-reviewed preprints in repositories, case studies with fewer than 10 samples or reports, letters, conference abstracts, protocols, gray literature, review protocols and articles, irrelevant studies (on different topics), and animal or in vitro studies were excluded. However, these sources were used to find additional eligible studies.

2.3. Outcome and Exposure Measures

The primary outcome was death. The secondary outcomes were severe illness and admission to the ICU. Severe illness was defined as having one of the following: an SpO₂ < 94%; a respiratory rate > 30 breaths per minute; lung infiltrates in >50% of the lung fields by either plain or computed tomography radiography; an arterial partial pressure of the oxygen to fraction of the inspired oxygen (PaO₂/FiO₂) < 300 mmHg; or organ dysfunction. Organ dysfunction includes: respiratory failure, as evidenced by mechanical ventilation; myocardial injury, as evidenced by the need for catheterization or troponin elevation; and renal injury, as evidenced by the need for dialysis; or a 50% decrease in the renal function as assessed by either a creatinine rise or a decline in the glomerular filtration rate, hepatic failure, pulmonary embolus, or stroke/cerebrovascular accident [35].

The exposure variables were demographic (age, gender, tobacco use), and the comorbidities included hypertension, diabetes, cardiovascular disease, chronic respiratory disease, chronic kidney disease, chronic liver disease, cerebrovascular disease, and cancer.

2.4. Search Methods for Identification of Studies

An article search was conducted in parallel in PubMed, Embase, Cochrane Library, and CINAHL on 6 May 2020. Articles published after 6 May 2020 in PubMed, Cochrane Library, and CINAHL were also searched on 18 May 2021. The search terms were (obesity OR hypertension OR Asthma or nutrition OR age OR gender OR ethnicity OR race OR income OR poverty OR pregnancy OR “Breastfeeding” OR “medical conditions” OR

medications OR “chronic diseases” OR influenza or stroke OR HIV OR cancer OR diabetes OR “cardiovascular disease” OR “coronary heart disease” OR “chronic respiratory disease” OR “Sequential Organ Failure Assessment” OR smoking OR “co infection” OR comorbidity OR comorbidities or risk) AND (clinical OR severe OR complications OR mortality OR death) AND (“coronavirus disease 2019” OR “COVID-19” OR “Severe acute respiratory syndrome coronavirus 2” OR SARS-CoV-2 OR “Coronavirus 2” OR “2019 novel coronavirus”). Additional details of the search are available in the supplementary files (Table S2). After transferring the articles that were searched from the four databases to RefWorks and after the removal of the duplicates, the titles and abstracts were screened on the basis of the inclusion and exclusion criteria. The articles that were approved for full-text review were further screened on the basis of the eligibility criteria. The article search and the screening processes were conducted by two authors independently. The two authors resolved differences by discussion. A third author was available to mediate disagreements following an independent review.

2.5. Data Collection

Data on the author, the study area/country, the study design, the sample size, and the crude or adjusted odds ratios (ORs) of death, severe illness, or admission to the ICU, along with a 95% confidence interval (CI) among COVID-19 patients with comorbidities vs. without comorbidities, or with different demographic statuses, were abstracted from each study. In addition, when the OR was not reported, raw data were used to estimate the crude ORs of death, with severe illness or admission to the ICU among COVID-19 patients with comorbidities vs. without comorbidities, or different demographic statuses per study. Two authors abstracted and entered the data into the excel sheet independently and compared their results. The two authors approved the final data that were used for analysis after discussion.

2.6. Quality and Risk of Bias

The risk of bias and the quality of the studies that are included in this review were evaluated by using the Effective Public Health Practice Project tool [36]. The Effective Public Health Practice Project tool uses six criteria: selection bias, design, confounders, blinding, data collection, and withdrawal/dropout, in order to examine the quality of studies. Each study’s quality was determined as either low, moderate, or high for each of the six criteria by using two items for each criterion. The study’s overall quality was determined as high when the study had no weak rating for each of the six characteristics, and it was determined as moderate when the study had one weak rating in one of the six characteristics. The studies were grouped as low quality when the ratings for two or more characteristics were low.

2.7. Data Analysis

Stata software version 16 was used for the data analysis (Stata Corporation, College Station, TX, USA). The percent residual variation among the studies due to heterogeneity was estimated by using Moran’s I-squared [37]. The statistical significance of the heterogeneity was tested by using Cochran’s Q chi-square test [37]. The odds ratios of the studies that were combined in the meta-analysis to estimate the summary OR were both adjusted and unadjusted estimates. A random-effect model using the Der Simonian and Laird method was used to estimate the summary ORs [38]. When the heterogeneity was high ($I^2 > 50\%$), a subgroup analysis was performed to estimate the summary ORs after grouping the studies by study area/country, study design, sample size, income group, and year of publication (2020 vs. 2021). Meta-regression was used to explore the sources of heterogeneity at the study-level covariates by examining the linear relationship between the ORs and the study area/country, the study design, the sample size, and the year of publication [39]. A funnel plot that displays the odds-ratio estimates against their standard errors was used to evaluate the publication bias among the studies included in the

meta-analyses. The statistical significance of the asymmetry of the funnel plot was tested by using Egger's regression test (bias if $p < 0.1$) [40]. A 95% CI and an alpha of 0.05 were used to assess the significance of the OR.

3. Results

The initial search of articles from the databases on 6 May 2020 resulted in 4275 articles (PubMed: 1986; Embase: 2006; CINAHL: 224; and Cochrane Library: 59), out of which 1527 were duplicates (Figure 1). An additional search of articles published between 6 May 2020 and 18 May 2021 in PubMed ($n = 3735$), CINAHL ($n = 2257$), and Cochrane Library ($n = 1708$) yielded 7700 articles, out of which 585 were duplicates. Of the non-duplicate 9850 articles, 8274 were ineligible after screening the titles and abstracts, and 1017 articles were excluded after full-text reviews. This resulted in 559 articles that were appropriate for inclusion in the systematic review, and 542 of them were also included in the meta-analysis [3,41–598]. The majority of the studies were conducted in China, Italy, and the United States (Table S3). The study designs were retrospective, cross-sectional, and prospective. The clinical outcomes that are reported are death, severe illness, and admission to the ICU. The exposure variables that are examined in the studies include hypertension, cardiovascular disease, diabetes, chronic respiratory disease, cancer, chronic kidney disease, chronic liver disease, cerebrovascular disease, smoking, age, and sex.

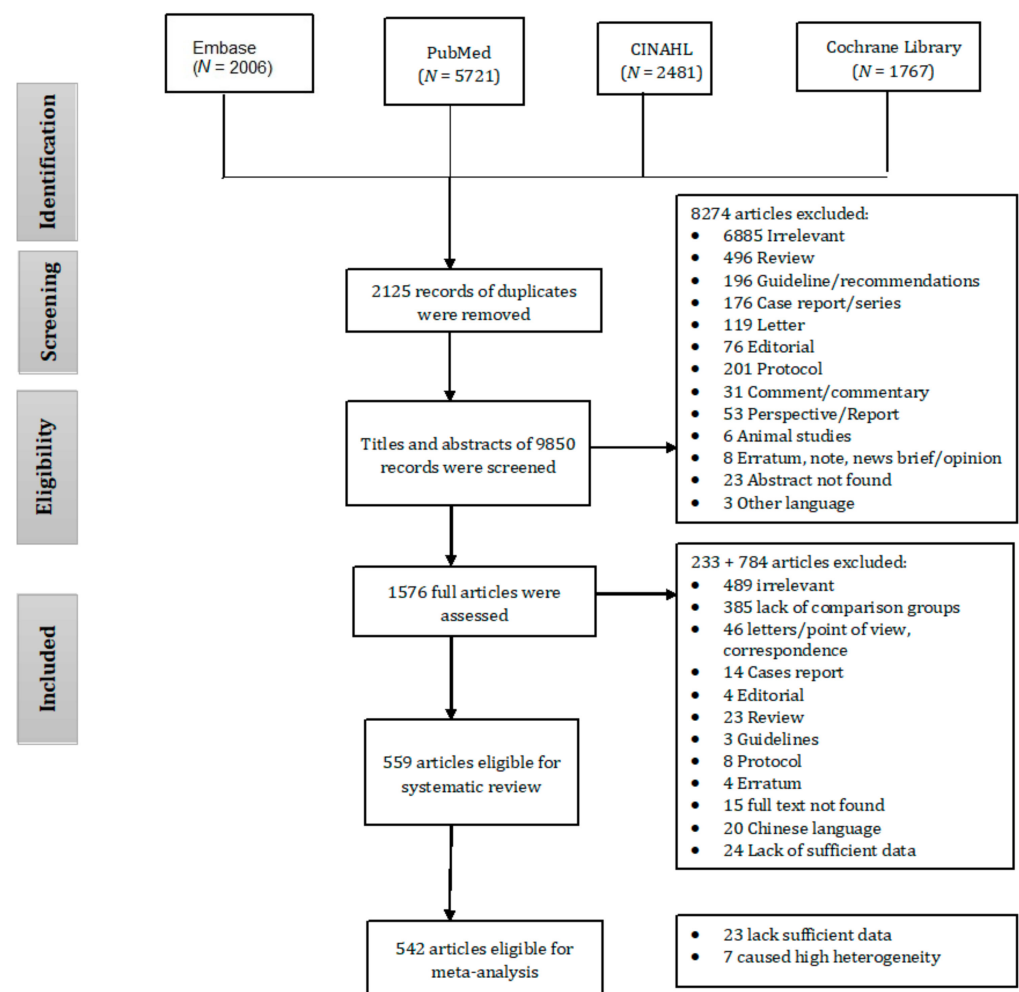


Figure 1. PRISMA flow diagram. Numbers of articles retrieved from databases, screened, excluded, and included.

3.1. Hypertension

Out of the 559 studies that were approved for inclusion in this review, 302 examined the correlation between hypertension and death, severe illness, and admission to the ICU among COVID-19 patients. Tables S4 and S5 and Figure 2 show the summary estimates of the odds ratios of death (vs. survival: $n = 209$ studies), severe illness (vs. moderate or mild: $n = 100$ studies), and admission to the ICU (vs. non-ICU: $n = 36$ studies) among hypertensive vs. normotensive patients, respectively. While some studies report increased odds of death ($n = 82$ studies), severe illness ($n = 48$ studies), and admission to the ICU ($n = 11$ studies) among hypertensive patients, others report the lack of correlation between hypertension and death ($n = 122$ studies), severe illness ($n = 52$ studies), or admission to the ICU ($n = 25$ studies). Few studies document lower death ($n = 5$ studies) and admission to the ICU ($n = 1$ studies) among hypertensive vs. normotensive patients. A summary analysis of the pooled data from these studies showed moderate to high heterogeneity, although there were greater odds of death (OR 1.38, 95% CI 1.30–1.46, $I^2 = 77.3%$, number of studies, ($n = 209$) (Table S4), severe illness (OR 1.59, 95% CI 1.41–1.76, $I^2 = 47.9%$, $n = 100$) (Table S5), and admission to the ICU (OR 1.29, 95% CI 1.10–1.49, $I^2 = 63.1%$, $n = 36$) among hypertensive compared to normotensive patients (Figure 2).

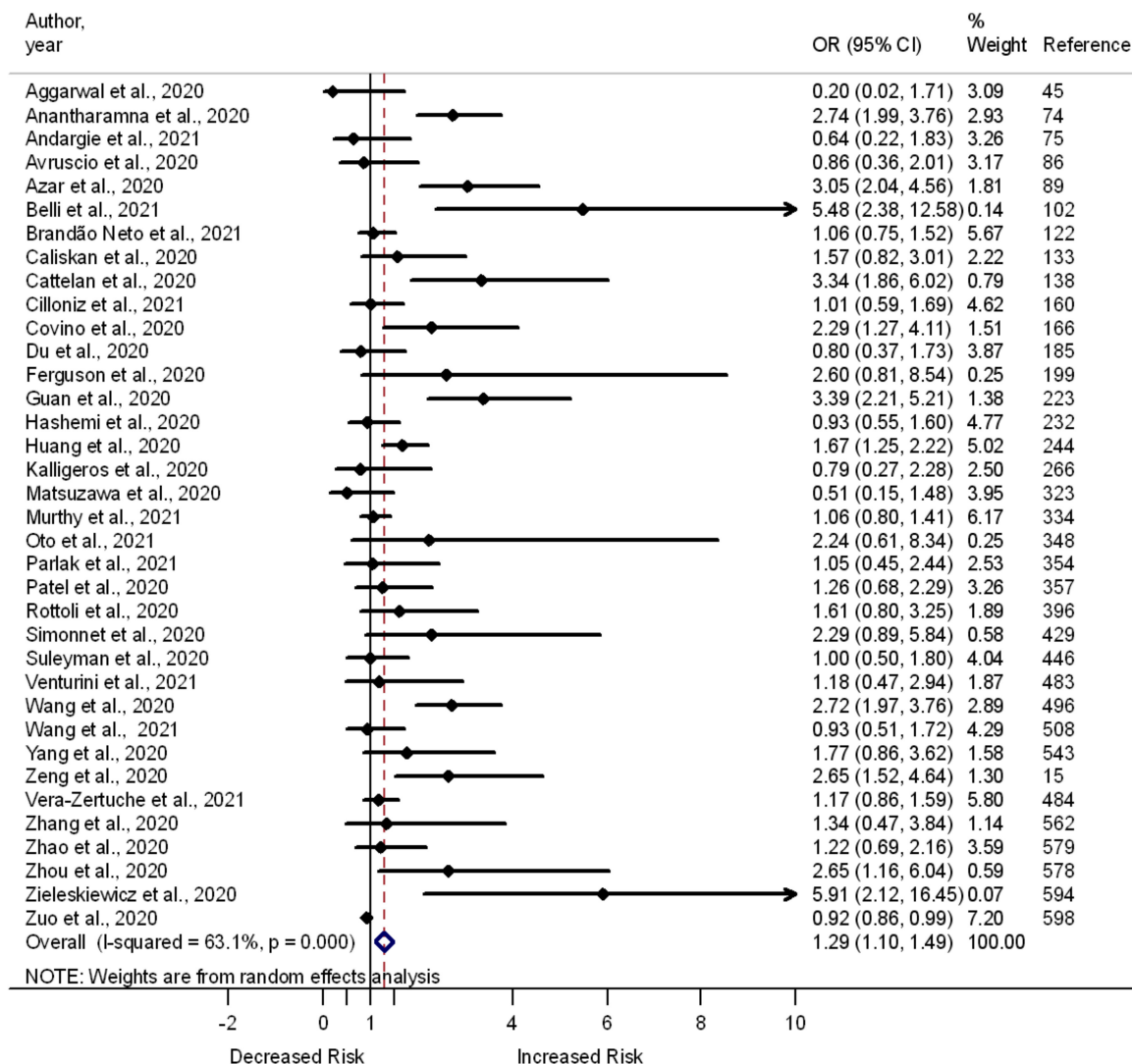


Figure 2. Forest plot showing the relationship of hypertension with the odds of admission to the ICU among COVID-19 patients.

3.2. Cardiovascular Disease

A total of 189 studies examined the nature of the relationship between cardiovascular disease and the odds of developing death ($n = 123$), severe illness ($n = 61$), and admission to the ICU ($n = 5$) among COVID-19 patients. Out of the 189 studies, 56 showed higher odds of death, and 27 showed higher odds of severe illness among COVID-19 patients with cardiovascular disease. One study showed lower odds of death among COVID-19 patients with cardiovascular disease. The remaining 66 out of 123 studies showed a lack of association between cardiovascular disease and death, and 34 out of 61 showed a lack of association between cardiovascular disease and the odds of developing severe illness among COVID-19 patients. A meta-analysis of the studies showed higher odds of death (OR 1.63, 95% CI 1.51–1.75, $I^2 = 80.2%$, $n = 123$) (Table S6) and severe illness (OR 1.27, 95% CI 1.07–1.47, $I^2 = 20.5%$, $n = 61$) (Table S7) among COVID-19 patients who had cardiovascular disease compared to those without this health problem. The odds of admission to the ICU were comparable between those who had cardiovascular disease and those without this health problem (OR 1.18, 95% CI 0.97–1.39, $I^2 = 48.5%$, $n = 30$) (Figure 3).

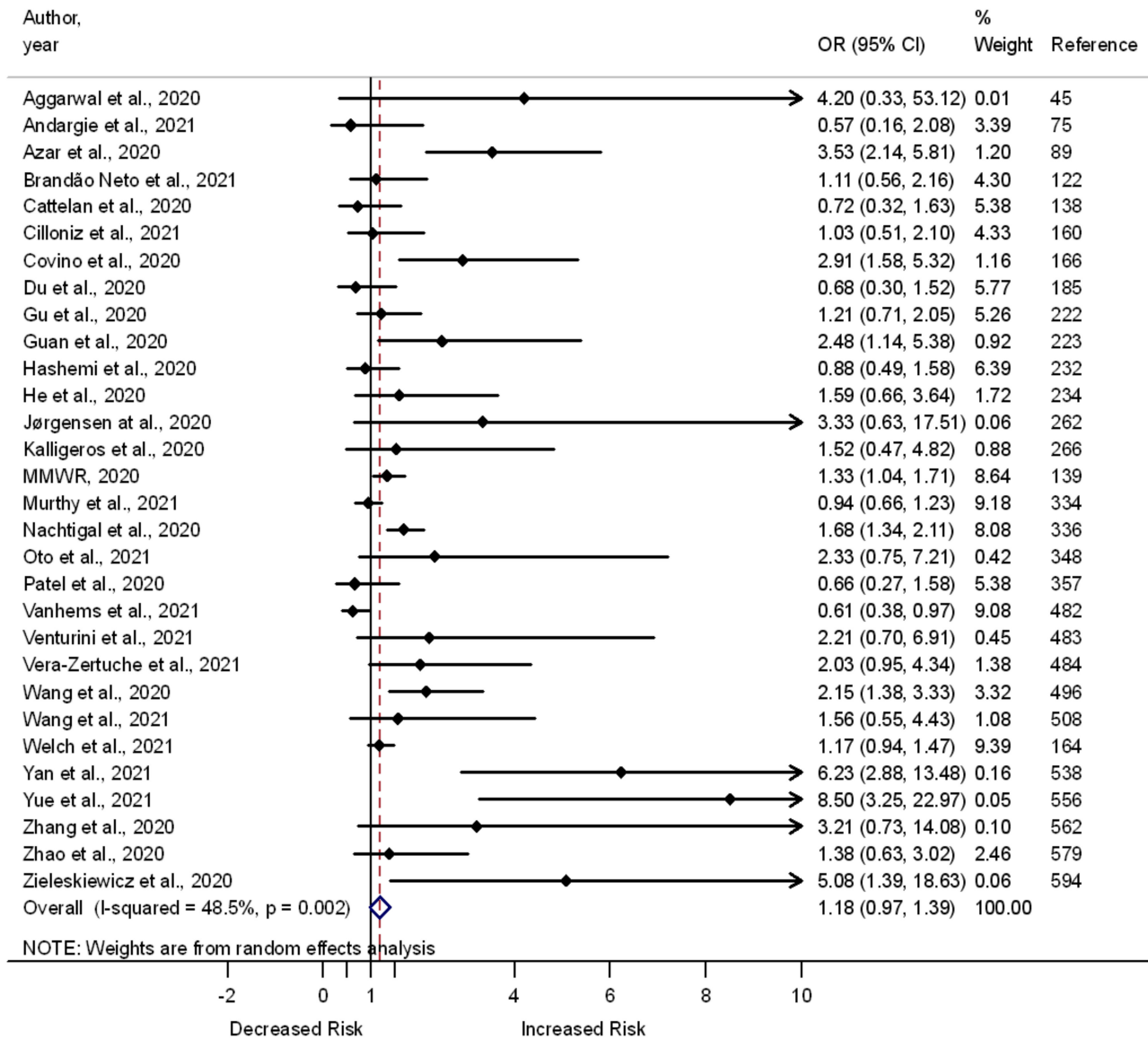


Figure 3. Forest plot showing the relationship of cardiovascular disease with the odds of admission to the ICU among COVID-19 patients.

3.3. Diabetes

Diabetes is also posited to be linked to the risk of developing severe illness and death among COVID-19 patients. A total of 224 studies examined whether having diabetes is correlated with the odds of death among COVID-19 patients, 95 of which reported increased odds of death in COVID-19 patients with diabetes. The correlations between having diabetes and the odds of developing severe illness and the odds of admission to the ICU were assessed in 96 (44 reported increased odds) and 46 (16 reported increased odds) studies, respectively. A summary analysis of these studies showed greater odds of death (OR 1.56, 95% CI 1.45–1.67, $I^2 = 95.5%$, $n = 224$) (Table S8), severe illness (OR 1.51, 95% CI 1.36–1.67, $I^2 = 17.4%$, $n = 96$) (Table S9), and admission to the ICU (OR 1.32, 95% CI 1.16–1.49, $I^2 = 54.5%$, $n = 45$) (Figure 4) among patients with diabetes compared to those who had no diabetes.

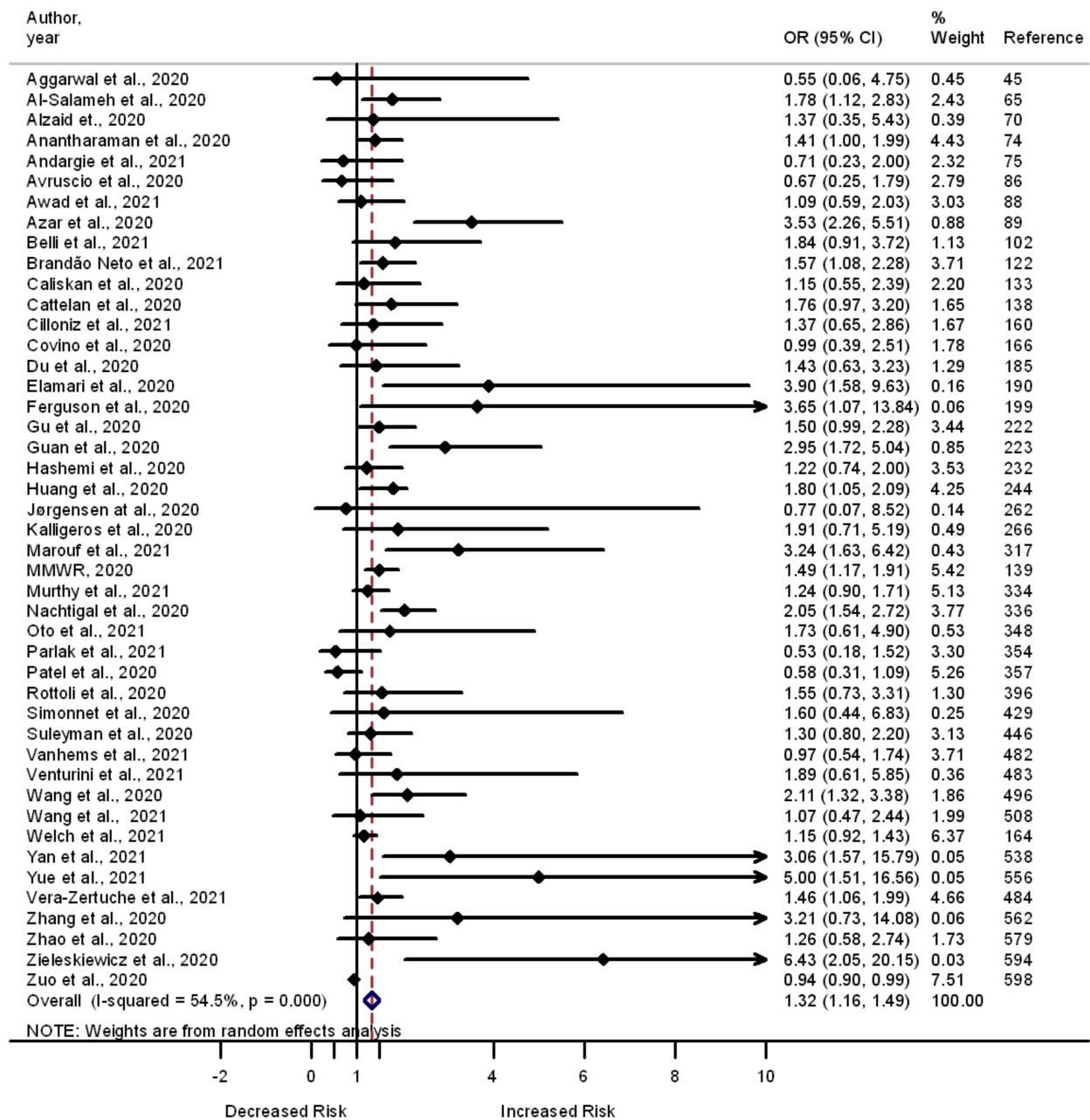


Figure 4. Forest plot showing the relationship of diabetes with the odds of admission to the ICU among COVID-19 patients.

3.4. Chronic Respiratory Disease

Of the 559 included studies, 178 compared the odds of death vs. survival ($n = 141$), severe vs. moderate or mild illness ($n = 40$), and admission to the ICU vs. no admission ($n = 27$) among COVID-19 patients who had chronic respiratory disease vs. those without this problem. Of the 141 studies that compared the odds of death vs. survival, 66 report significantly greater odds of death among COVID-19 patients with chronic respiratory disease, and one reports significantly lower odds of death among COVID-19 patients with chronic respiratory disease; however, 75 document a lack of association between chronic respiratory disease and the odds of death. Out of the 40 studies that compared the odds of severe vs. mild or moderate illness among COVID-19 patients, 17 report significantly greater odds of severe illness, but 22 show a lack of association between chronic respiratory disease and the odds of developing severe illness. One study reports lower odds of severe illness among COVID-19 patients with chronic respiratory disease than among those without chronic respiratory disease. The association between having a chronic respiratory disease and the odds of admission to the ICU was assessed in 27 studies (nine reported increased odds, but one reported decreased odds). A meta-analysis of the 178 studies showed an association between chronic respiratory disease and increased odds of death (OR 1.55, 95% CI 1.42–1.68, $I^2 = 72.5%$, $n = 141$) (Table S10), severe illness (OR 1.37, 95% CI 1.07–1.66, $I^2 = 19.2%$, $n = 41$) (Figure 5), and admission to the ICU (OR 1.27, 95% CI 1.01–1.53, $I^2 = 35.8%$, $n = 26$) (Figure 6).

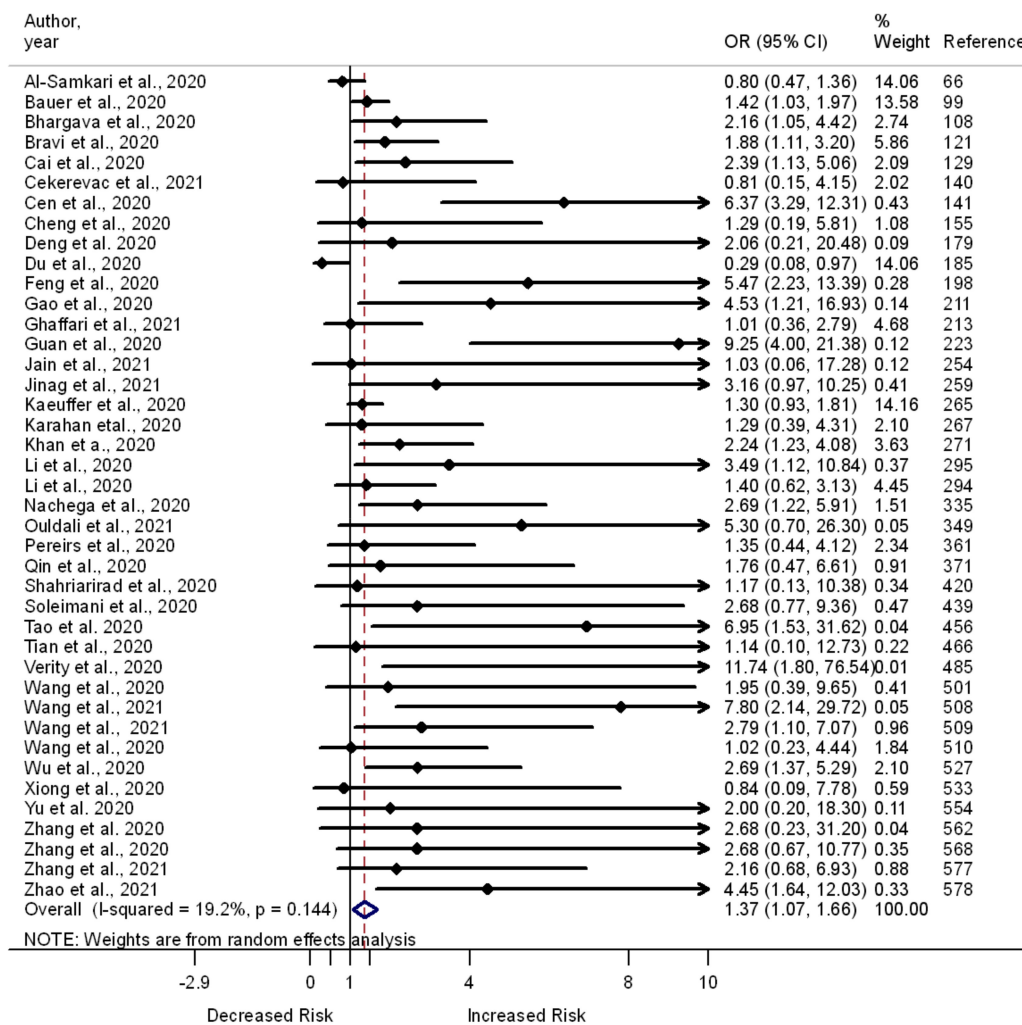


Figure 5. Forest plot showing the relationship of chronic respiratory diseases with the odds of severe illness among COVID-19 patients.

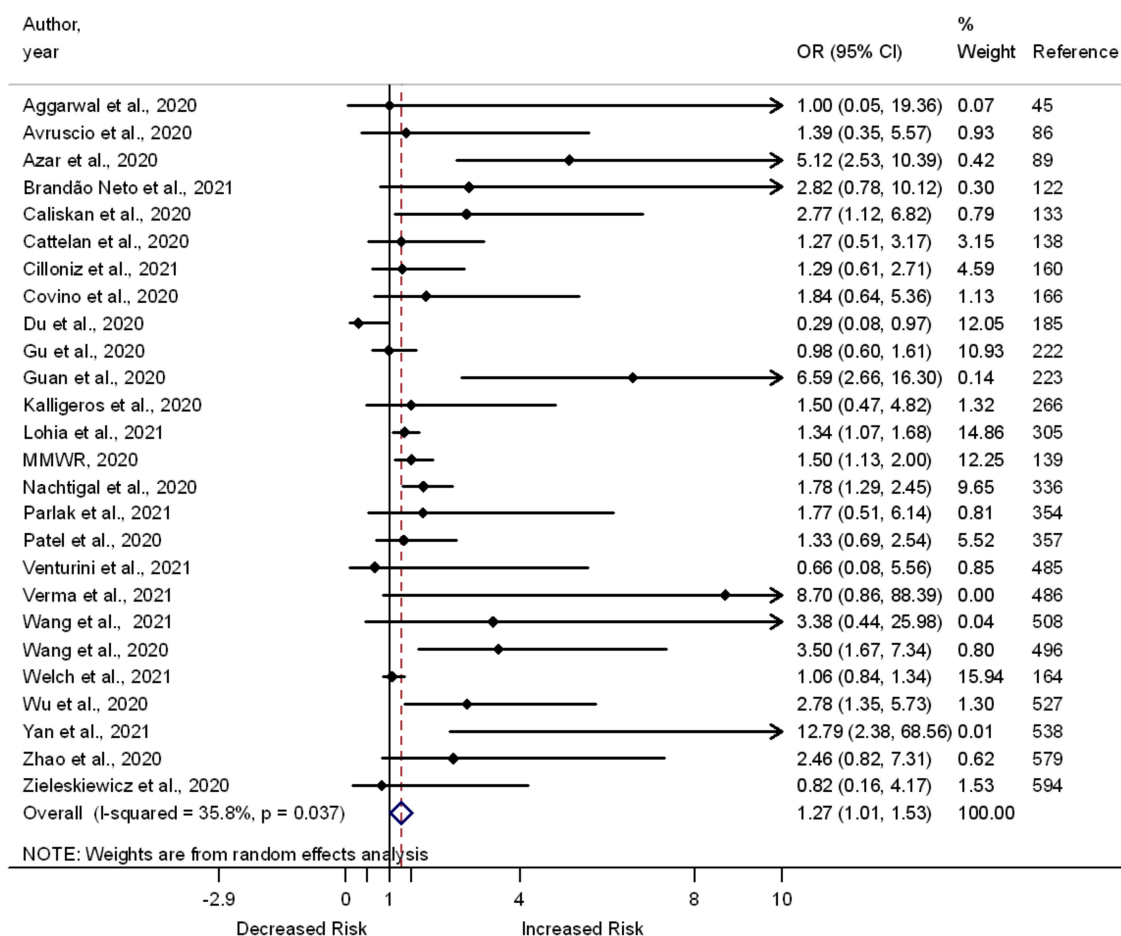


Figure 6. Forest plot showing the relationship of chronic respiratory diseases with the odds of admission to the ICU among COVID-19 patients.

3.5. Cancer

A total of 127 studies examined the nature of the relationship between cancer and the odds of death ($n = 86$), severe illness ($n = 35$), and admission to the ICU ($n = 22$) among COVID-19 patients. Increased odds of death, severe illness, and admission to the ICU among COVID-19 patients who had cancer were reported in 31 (out of 86), 10 (out of 35), and 4 (out of 22) studies, respectively. One study showed decreased odds of death among COVID-19 patients who had cancer. The remaining studies showed a lack of association between having cancer and the odds of death ($n = 84$), severe illness ($n = 25$), and admission to the ICU ($n = 18$) among COVID-19 patients. A meta-analysis of the 127 studies showed increased odds of death among COVID-19 patients who had cancer (OR 1.55, 95% CI 1.34–1.76, $I^2 = 85.1%$, $n = 86$) (Table S11); however, there was a lack of correlation between this chronic disease and severe illness (OR 1.17, 95% CI 0.91–1.43, $I^2 = 15.6%$, $n = 35$) (Figure S1) and admission to the ICU (OR 0.98, 95% CI 0.80–1.16, $I^2 = 0.0%$, $n = 22$) (Figure S2) among COVID-19 patients.

3.6. Chronic Kidney Disease

A total of 161 studies examined the nature of the relationship between chronic kidney disease and the odds of death ($n = 117$), severe illness ($n = 34$), and admission to the ICU ($n = 24$) among COVID-19 patients. Of the 161 studies, 60 showed increased odds of death, 12 reported increased odds of severe illness, and 9 documented increased odds of admission to the ICU among COVID-19 patients who had chronic kidney disease vs. those who did not. One study reported decreased odds of death, two studies reported decreased odds of severe illness, and one showed decreased odds of admission to the ICU among COVID-19

patients with chronic kidney disease. The remaining studies showed a lack of association between chronic kidney disease and the odds of death ($n = 56$), severe illness ($n = 20$), and admission to the ICU ($n = 14$). A meta-analysis of the 161 studies showed an association between chronic kidney disease and increased odds of death (OR 1.73, 95% CI 1.54–1.92, $I^2 = 79.3%$, $n = 117$) (Table S12); however, there was a lack of correlation between chronic kidney disease and severe illness (OR 1.38, 95% CI 0.91–1.84, $I^2 = 75.3%$, $n = 34$) (Figure S3) and admission to the ICU (OR 1.44, 95% CI 0.94–1.94, $I^2 = 53.1%$, $n = 24$) among COVID-19 patients (Figure S4).

3.7. Chronic Liver Disease

Out of the 559 studies that are included in this review, 47 tested the association between chronic liver disease and death ($n = 26$), severe illness ($n = 16$), or admission to the ICU ($n = 6$) among COVID-19 patients. The majority of the studies report a lack of correlation between chronic liver disease and death ($n = 20$), severe illness ($n = 14$), and admission to the ICU ($n = 6$) among COVID-19 patients. Few studies report increased odds of death ($n = 6$) and severe illness ($n = 2$) among COVID-19 patients with chronic liver disease compared to those without this chronic health problem. A summary analysis of the 47 studies showed an association between chronic liver disease and increased odds of death (OR 1.50, 95% CI 1.31–1.68, $I^2 = 0.0%$, $n = 26$); however, there was lack of correlation between chronic liver disease and severe illness (OR 0.98, 95% CI 0.67–1.30, $I^2 = 0.0%$, $n = 16$) and admission to the ICU (OR 1.05 95% CI 0.62–1.48, $I^2 = 0.0%$, $n = 6$) (Figure 7).

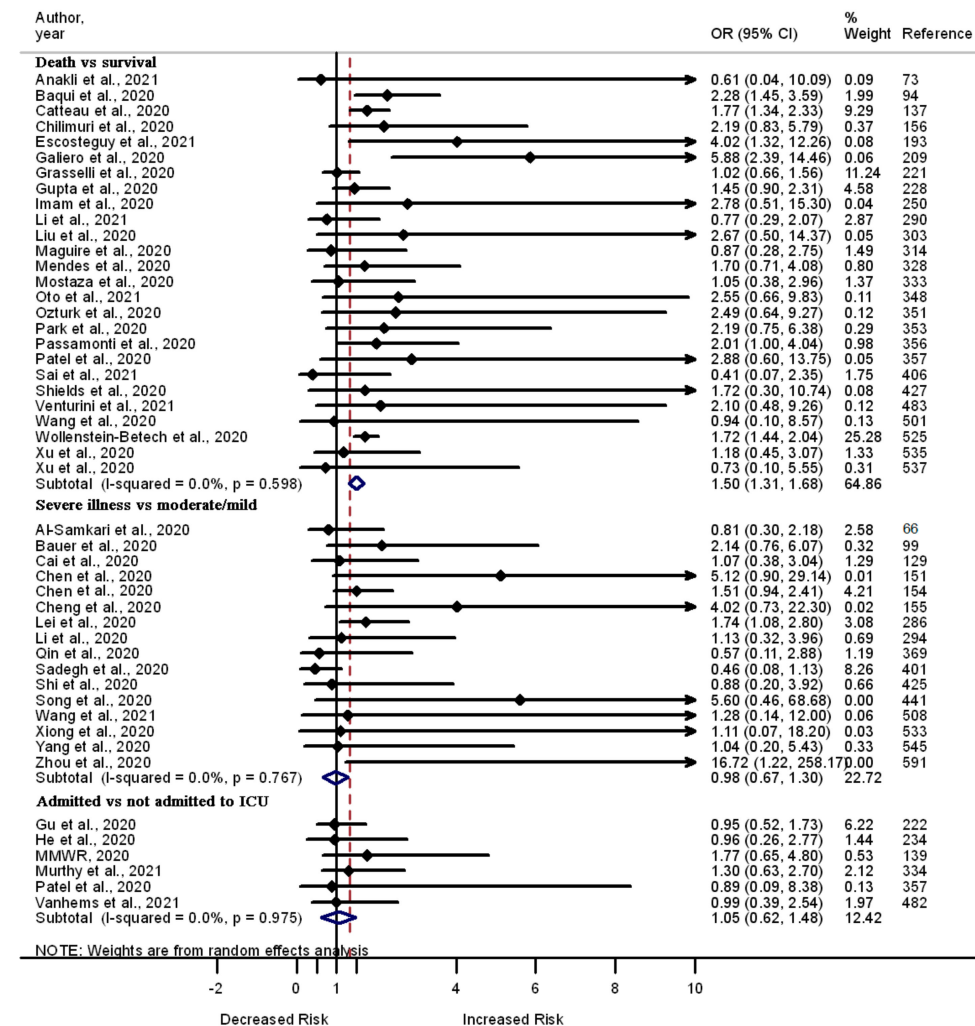


Figure 7. Forest plot showing the relationship between chronic liver disease and the odds of death, severe illness, and admission to the ICU among COVID-19 patients.

3.8. Cerebrovascular Diseases

A total of 54 studies report findings on the odds of death ($n = 39$), severe illness ($n = 10$), and admission to the ICU ($n = 7$) among COVID-19 patients with cerebrovascular diseases vs. those without this comorbidity. Out of 39 studies, 14 report increased odds of death, and one documents decreased odds of death among COVID-19 patients with cerebrovascular diseases. Some of these studies also show the association between cerebrovascular diseases and increased odds of developing severe illness ($n = 5$) and admission to the ICU ($n = 4$). The remaining 25 (out of 39), 5 (out of 10), and 3 (out of 7) of the studies reported that cerebrovascular disease is not associated with death, severe illness, and admission to the ICU in COVID-19 patients, respectively. A meta-analysis of the 54 studies showed increased odds of death (OR 1.59, 95% CI 1.24–1.93, $I^2 = 62.9\%$, $n = 37$) and severe illness (OR 1.89, 95% CI 1.25–2.53, $I^2 = 0.0\%$, $n = 10$) among COVID-19 patients with cerebrovascular diseases; however, the odds of admission to the ICU (OR 1.49, 95% CI 0.50–2.49, $I^2 = 14.2\%$, $n = 7$) were similar between patients with cerebrovascular diseases and those without this comorbidity (Figure 8).

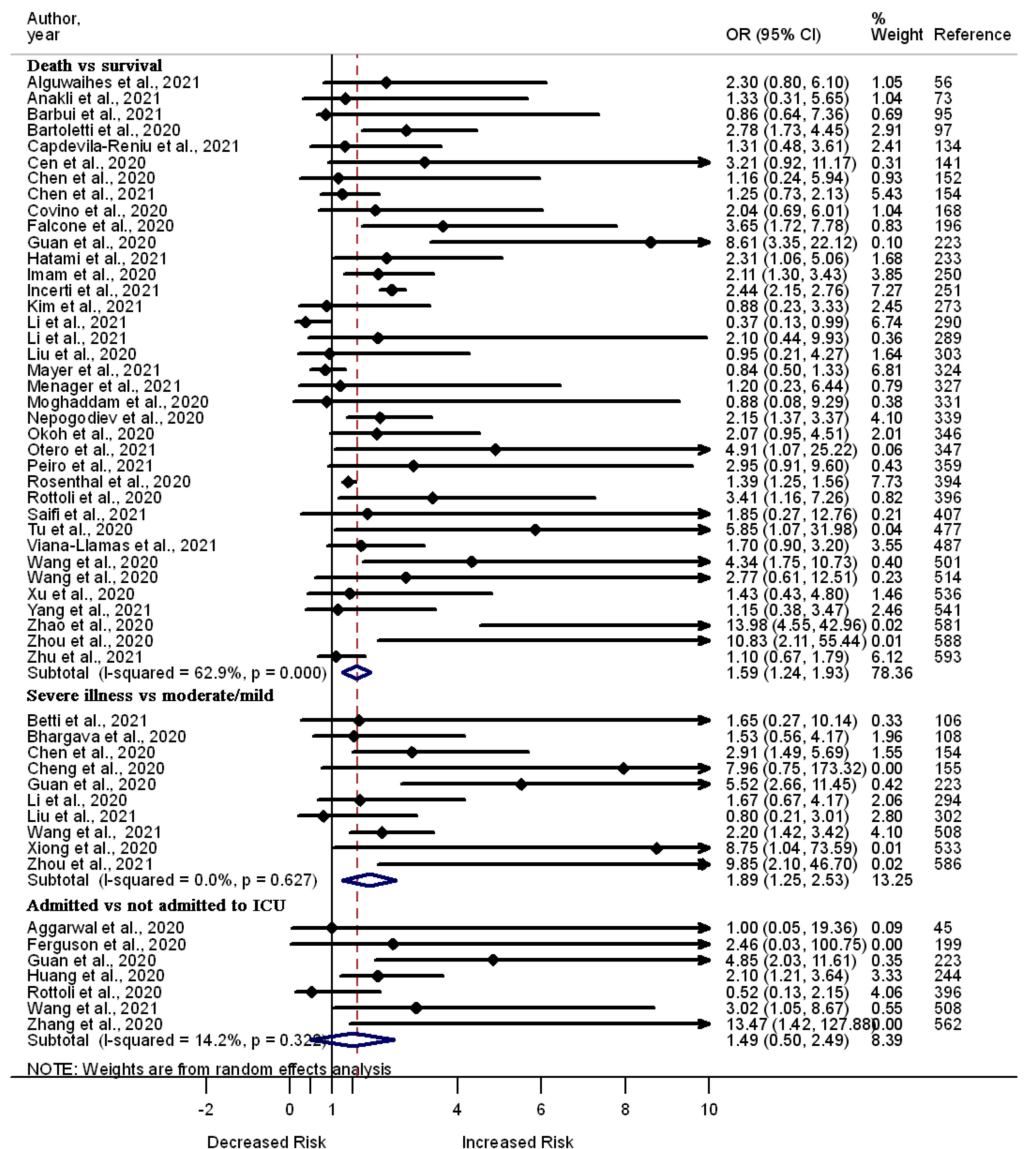


Figure 8. Forest plot showing the relationship of cerebrovascular diseases with the odds of death, severe illness, and admission to the ICU among COVID-19 patients.

3.9. Smoking

A total of 133 studies included in the current meta-analyses examined the impact of tobacco smoking on the clinical outcomes of COVID-19. Of these 133 studies, most showed a lack of association between smoking and death (68 out of 87), severe illness (35 out of 43), or admission to the ICU (13 out of 15) among COVID-19 patients. Only 17 studies show increased odds of death, 8 report increased odds of severe illness, and 2 report increased odds of admission to the ICU among COVID-19 patients who were former or current smokers compared to non-smokers. Two studies report decreased odds of death among COVID-19 patients who smoked cigarettes vs. those who did not. A meta-analysis of the studies showed increased odds of death (OR 1.22, 95% CI 1.01–1.43, $I^2 = 96.6\%$, $n = 87$) (Table S13); however, the odds of severe illness (OR 1.06, 95% CI 0.09–1.22, $I^2 = 7.0\%$, $n = 44$) and admission to the ICU (OR 1.04, 95% CI 0.85–1.23, $I^2 = 27.6\%$, $n = 14$) were similar among COVID-19 patients who were former or current smokers and non-smokers (Figure 9).

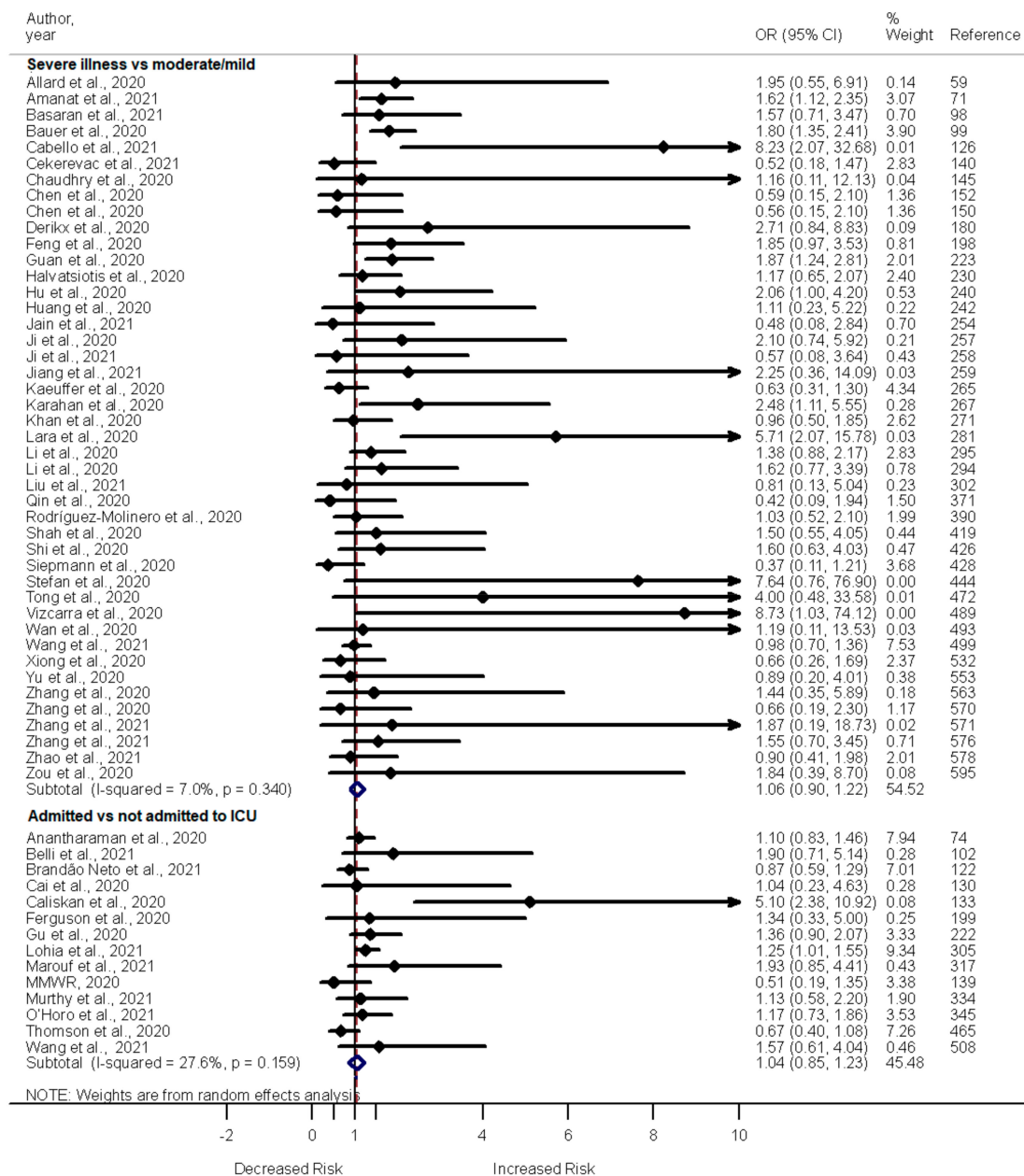


Figure 9. Forest plot showing the relationship of smoking with the odds of severe illness and admission to the ICU among COVID-19 patients.

3.10. Age

A total of 241 studies that examined the association between age and COVID-19-related outcomes were included in this review. Out of 241 studies, 158 examined the effect of age on the odds of death, 74 assessed the effect of age on severe illness, and 30 examined the effect of age on admission to the ICU among COVID-19 patients. The studies treated age (in years) differently (≥ 60 vs. < 60 ($n = 68$); ≥ 65 vs. < 65 ($n = 77$); ≥ 50 vs. < 50 ($n = 6$); ≥ 70 vs. < 70 ($n = 12$); ≥ 75 vs. < 75 ($n = 7$); > 45 vs. ≤ 45 ($n = 1$)), and some treated age as a continuous variable (an increase by one year) ($n = 70$). Most of the studies that treated age as ≥ 65 vs. < 65 years report increased odds of death (42 out of 44), severe illness (29 out of 32), and admission to the ICU (5 out of 6) among COVID-19 patients of ages ≥ 65 years, compared to those of < 65 years. Similarly, the majority of the studies that treated age as ≥ 60 vs. < 60 years report increased odds of death (39 out of 45), severe illness (16 out of 21), and admission to the ICU (7 out of 9) among COVID-19 patients of ages ≥ 60 years compared to those < 60 years. Almost all of the studies that treated age as a continuous variable report increased odds of death (51 out of 52), severe illness (14 out of 14), and admission to the ICU (11 out of 11) with an increase in the age of COVID-19 patients by one year. The majority of the studies that treated age as ≥ 50 vs. < 50 years, ≥ 70 vs. < 70 years, and ≥ 75 vs. < 75 years report increased odds of death ($n = 2, 4, \text{ and } 3$, respectively) and severe illness (2, 1, and 2, respectively) among COVID-19 patients of ages ≥ 50 years, ≥ 70 years, and ≥ 75 years, compared to those < 50 years, < 70 years, and < 75 years, respectively. A meta-analysis of these studies showed greater odds of death (OR 3.51, 95% CI 2.76–4.26, $I^2 = 96.7\%$, $n = 44$) (Table S14), severe illness (OR 2.63, 95% CI 2.08–3.18, $I^2 = 69.5\%$, $n = 32$) (Table S15), and admission to the ICU (OR 1.87, 95% CI 1.08–2.66, $I^2 = 79.7\%$, $n = 6$) (Figure S5) among patients of ages ≥ 65 years compared to those < 65 years. The summary odds-ratio estimates of death (OR 4.32, 95% CI 3.39–5.25, $I^2 = 95.7\%$, $n = 45$) (Table S14), severe illness (OR 2.14, 95% CI 1.63–2.66, $I^2 = 69.5\%$, $n = 21$) (Table S15), and admission to the ICU (OR 1.92, 95% CI 1.51–2.33, $I^2 = 30.6\%$, $n = 9$) (Figure S5) among older-aged COVID-19 patients compared to younger ones were even much greater when the age was treated as ≥ 60 vs. < 60 . The increases in the odds of death (OR 1.06, 95% CI 1.05–1.07, $I^2 = 77.8\%$, $n = 70$), severe illness (OR 1.06, 95% CI 1.04–1.08, $I^2 = 74.7\%$, $n = 14$), and admission to the ICU (OR 1.03, 95% CI 1.01–1.05, $I^2 = 74.1\%$, $n = 11$) were also significant with an increase in the age of the COVID-19 patients by one year (Tables S13 and S14, Figure S6). COVID-19 patients of ages ≥ 75 years were also more likely to die than those with ages younger than 75 years (OR 2.40, 95% CI 2.09–2.70, $I^2 = 0.0\%$, $n = 5$). However, the odds of death, severe illness, and admission to the ICU among COVID-19 patients were comparable between individuals with ages ≥ 50 and < 50 years, as well as between those with ages ≥ 70 and < 70 years (Tables S14 and S15, Figure S5).

3.11. Gender

A total of 411 studies examined the effect of gender on the odds of death ($n = 272$), severe illness ($n = 136$), and admission to the ICU ($n = 52$) among COVID-19 patients. Of the 272 studies that compared the odds of death between males and females, 100 reported increased odds in males, but 3 showed decreased odds in males, and 159 documented similar odds between males and females. A meta-analysis of the 272 studies showed increased odds of death among males compared to females (OR 1.33, 95% CI 1.26–1.39, $I^2 = 89.3\%$) (Table S16). Similarly, of the 136 studies that compared the odds of severe illness between males and females, 41 reported increased odds, 3 reported decreased odds, and 91 studies documented similar odds between males and females. A summary analysis of the 135 studies showed increased odds of severe illness among males compared to females (OR 1.26, 95% CI 1.16–1.37, $I^2 = 65.2\%$) (Table S17); however, this could not be further assessed by tandem risk factors (e.g., underlying cardiovascular disease) in the available data.

A total of 52 studies examined the relationship between gender and the odds of admission to the ICU. Out of these 52 studies, 18 showed increased odds of admission to the ICU, and one reported decreased odds of admission to the ICU in males compared to

females; however, 33 studies showed a lack of association between gender and the odds of admission to the ICU. A summary of the 52 studies showed increased admission to the ICU in males compared to females among COVID-19 patients (OR 1.40, 95% CI 1.24–1.55, $I^2 = 70.0%$) (Figure S6).

3.12. Heterogeneity Assessment

There was no heterogeneity ($I^2 = 0.0%$) observed among the studies included in the meta-analyses that estimated the summary odds ratios of death, severe illness, or admission to the ICU among COVID-19 patients with chronic liver disease vs. those without this comorbidity. There was also no or low heterogeneity among the studies included in the meta-analyses that examined the correlations between the specific clinical outcomes in COVID-19 patients and cardiovascular disease ($I^2 = 20.5%$ for severe illness), diabetes ($I^2 = 17.4%$ for severe illness), chronic respiratory disease ($I^2 = 19.2%$ for severe illness, $I^2 = 35.8%$ for admission to the ICU), cancer ($I^2 = 15.6%$ for severe illness, $I^2 = 0.0%$ for admission to the ICU), cerebrovascular disease ($I^2 = 0.0%$ for severe illness, $I^2 = 14.2%$ for admission to the ICU), smoking ($I^2 = 7.0%$ for severe illness, $I^2 = 27.6%$ for admission to the ICU), and age in years ≥ 60 vs. <60 ($I^2 = 30.6%$ for admission to the ICU), or ≥ 75 vs. <75 ($I^2 = 0.0%$ death and severe illness). There was moderate heterogeneity among the studies included in the meta-analyses that examined the correlation between admission to the ICU in COVID-19 patients and cardiovascular disease ($I^2 = 48.5%$), diabetes ($I^2 = 54.5%$), and chronic kidney disease ($I^2 = 53.1%$). The heterogeneity level in the meta-analyses that was performed to examine the associations between hypertension and the odds of severe illness among COVID-19 patients was also moderate ($I^2 = 47.9%$).

However, the heterogeneity was high ($I^2 > 50%$) among the studies that were combined in the meta-analyses to examine the associations between: (i) death and hypertension, cardiovascular disease, diabetes, cancer, chronic kidney disease, smoking, age ≥ 65 vs. <65 years, age ≥ 60 vs. <60 years, an age increase of one year, and gender in COVID-19 patients (Table S18); (ii) severe illness and age, gender, and chronic kidney disease (Table S19); and (iii) admission to the ICU and hypertension, diabetes, chronic kidney disease, and smoking (Table S20). Subgroup analyses by study design, study area/country, sample size, year of publication, and income group status decreased the heterogeneity of the studies that assessed the relationship between comorbidities and demographic status and death (Table S18), severe illness (Table S19), and admission to the ICU (Table S20) among COVID-19 patients.

The meta-regression analysis also showed that the study area or country significantly affects the log ORs of death among male (vs. female) COVID-19 patients (meta-regression coefficient (β) = -0.50 , $p = 0.073$) with diabetes (vs. without diabetes) ($\beta = -0.23$, $p = 0.400$). Similarly, the sample size significantly affected the log ORs of death among COVID-19 patients with ages ≥ 60 vs. <60 years ($\beta = 8.74 \times 10^{-6}$, $p = 0.631$). The log odds of death among COVID-19 patients with chronic respiratory disease vs. those without this comorbidity were significantly different between studies published in 2020 and in 2021 ($\beta = 8.74 \times 10^{-6}$, $p = 0.631$). However, the meta-regression analysis showed a lack of effect of the study area or the country, the study design, the sample size, and the year of publication on the log ORs of death among COVID-19 patients with hypertension, cancer, cardiovascular disease, chronic kidney disease, those who smoke, and with ages ≥ 65 vs. <65 years (Table S21).

3.13. Publication Bias Assessment

The figures in File Figure S7 display the funnel plots that were used to qualitatively examine the publication bias, and the meta-regression tests that were used to evaluate the asymmetry of the plots. The odds-ratio distributions for death vs. survival among COVID-19 patients with cancer vs. without cancer, with diabetes vs. without diabetes, with chronic liver disease vs. without chronic liver disease, with ages ≥ 60 vs. <60 years, and with ages ≥ 65 vs. <65 years, against their standard-error estimates and Egger tests for the asymmetry of the published articles, did not indicate publication bias. The funnel

plots of the odds ratios of the likelihood of developing severe vs. moderate or mild illness, and the corresponding Egger tests, were also not significant among COVID-19 patients with hypertension, cancer, cerebrovascular disease, and chronic liver disease vs. those without these comorbidities, and vs. those who were smokers vs. nonsmokers. Studies that compared the odds ratios of admission to the ICU vs. no admission to the ICU among COVID-19 patients with cerebrovascular disease, chronic liver disease, and chronic kidney disease vs. those without these comorbidities, smokers vs. nonsmokers, and ages ≥ 65 vs. < 65 years were also spread evenly on both sides of the average OR estimates, which created an approximately symmetrical funnel-shaped distribution.

However, there was publication bias (i.e., the odds-ratio estimates were scattered asymmetrically in the funnel plot) among the studies that compared the odds of: (i) death vs. survival in patients with hypertension, obesity, cardiovascular disease, chronic respiratory disease, cerebrovascular disease, chronic kidney disease vs. those without the corresponding comorbidities; smokers vs. nonsmokers; males vs. females; and an age increase of one year; (ii) severe vs. mild or moderate illness in patients with diabetes, cardiovascular disease, chronic respiratory disease, chronic kidney disease vs. those without the corresponding comorbidities; males vs. females; ages ≥ 60 vs. < 60 years; and ages ≥ 65 vs. < 65 years; and (iii) admission to the ICU vs. no admission in patients with hypertension, cancer, diabetes, cardiovascular disease, and chronic respiratory disease vs. those without the corresponding comorbidities; males vs. females; ages ≥ 60 vs. < 60 years; and an age increase of one year.

3.14. Risk of Bias and Quality of the Studies

The risk of bias and the quality of the studies included in this systematic review are summarized in the supplementary table (Table S22). Out of the 559 studies, 29 were good quality, 489 were moderate quality, and 45 were poor quality in terms of recruiting the study participants. The quality and bias were not assessed for nine studies. The majority of the studies also used good- ($n = 397$) or moderate-quality ($n = 128$) reliable and valid tools to determine the COVID-19 severity status and the related deaths among the study participants. In many studies ($n = 310$), the researchers or data collectors were not aware of the group (exposed vs. unexposed) to which the study participants belonged in the data-collection process and/or the participants were blinded to the research question. The majority of the included studies were of moderate quality in terms of the study design (retrospective case-control or cohort) (~90.0%), and of the controlling confounders (~70%) that may affect the relationship between comorbidities and COVID-19-related outcomes or death.

On the other hand, several studies were rated as low quality on the basis of the study design ($n = 57$), the data collection ($n = 38$), the confounders ($n = 166$), the blinding ($n = 215$), and the dropouts and withdrawals ($n = 263$). The total rating using the six criteria showed that 107 studies were of strong quality, 227 studies were of moderate quality, and 229 studies were of low quality. Studies were included in this review, regardless of their qualities.

4. Discussion

This systematic review and its meta-analyses confirm several correlations between demographic factors and comorbidities and severe illness and death among COVID-19 patients that have been reported in other reviews [5–19]. COVID-19 patients who were smokers, males, with ages ≥ 60 or 65 years, and those who had hypertension, diabetes, cardiovascular disease, cancer, chronic respiratory disease, chronic kidney disease, chronic liver disease, and cerebrovascular diseases were found to be more susceptible to death. The risk of developing severe illness also increased among male COVID-19 patients of ages 60 or 65 years, and among those who had hypertension, diabetes, chronic respiratory disease, cerebrovascular disease, and cardiovascular diseases. Comorbidities, including hypertension, diabetes, chronic respiratory disease, male sex, and older ages, were also associated with increased odds of admission to the ICU among COVID-19 patients.

Chronic diseases, including hypertension, diabetes, chronic respiratory disease, cardiovascular disease, chronic liver disease, and cerebrovascular diseases have myriad pathophysiologic impacts that are relevant to the outcomes from an infectious disease. For example, autoimmunity in diabetes may release inflammatory cytokines, such as IL-1 β and TNF α , which contribute to a chronic inflammatory state [599]. Metabolic disorders may also impair the macrophage and lymphocyte function, which leads to low immune function [221], while the functional immunosuppression of senescence may play a role in older adults who experience worse disease [600]. Moreover, older adults also are more likely to have an underlying chronic disease [601]. The gender impacts on sepsis outcomes remain poorly characterized.

The comorbidity and demography risk factors for death, severe illness, and admission to the ICU among COVID-19 patients may shift as the pandemic continues. SARS-CoV-2 changes rapidly through point mutations and recombination, and especially in its Spike and nucleocapsid regions [602,603]. This rapid ongoing evolution can alter the transmissibility and pathogenicity of the virus, and it may produce new variants that escape the host immune responses and that lead to more severe and fatal disease outcomes [604–606]. SARS-CoV-2 could also evolve to become less pathogenic [607]. The results of these interplays can be hard to predict. For instance, while the SARS-CoV-2 Omicron variant was less likely to cause severe illness in any given individual, its effective transmission resulted in high total case numbers and, thus, to high total severe disease burden and substantial health-system impacts in some locations. The very nature of the disease may also change. The SARS-CoV-2 variant A.30 has demonstrated tropism that is not observed for other viral variants and that could promote extrapulmonary spread and enhance the evasion from neutralization by antibodies [608].

The lack of association between some chronic diseases (e.g., kidney disease, chronic liver disease, and cancer) and smoking and severe illness or admission to the ICU in COVID-19 patients could be due to limitations in the original studies. The role of chronic kidney disease was assessed among comparatively few participants, which could explain its discordance with the results among its cardiovascular equivalents. Potential ascertainment bias in the original studies could also partly explain the lack of association between kidney disease, chronic liver disease, cancer, and smoking and severe illness or admission to the ICU, although these diseases are shown here and elsewhere to play a role in death. Similarly, the lack of correlation between smoking and severe disease in COVID-19 patients could be due to the watering effect of the chronic disease impacts on the outcomes, and particularly in older patients. If most of the patients with cardiopulmonary diseases were smokers, and if the results were exacerbated by ascertainment bias (if the care providers did not ask tobacco status enough, or misinterpreted prior smoking and current smoking as never smoking), then studies could miss the distinctive impacts of tobacco use. Unfortunately, most of the studies did not control for or explore the potential interactions and the confounding among chronic diseases, or smoking on COVID-19-related outcomes.

These findings have a number of public health and research implications. Better standardization of the definitions of comorbidities and the other risk factors in COVID-19 and other sepsis research would help to mitigate the heterogeneity that was observed in our analyses. Nonetheless, that older and otherwise medically vulnerable patients experience more severe COVID-19 outcomes is reinforced by this work. There are steps that clinicians and assistive care settings can now take. For example, the creation of awareness and the provision of robust infection prevention and control practices are indicated in high-risk patient settings, in and out of the hospital. Second, the higher likelihood of poor outcomes indicates a benefit from more intensive surveillance, patient monitoring, and early medical intervention in such patients. These findings support both early interruptive therapy and vaccine-boosting recommendations, although they suggest that further exploration is needed in the potential stratification within risk groups among those with hypertension, cardiovascular disease, diabetes, respiratory system disease, liver disease, and cerebrovascular disease. Additional prospective cohort studies are indicated to include studies that

might look more closely at the unmet risk aspects, such as whether and how comorbidities and demographics can affect the risk of the acquisition of the SARS-CoV-2 relevant to the subsequent clinical outcomes of the disease. In addition, whether the stage or life expectancy confounds the results among cancer patients is not known.

There was a high level of heterogeneity and bias among the studies, and particularly among those that examined the effects of comorbidities and demographic factors on COVID-19-related death. The major sources of heterogeneity were the study design, the study country (including whether the country was considered middle or high income), the sample size, and the year of publication. Although the majority of the studies included were published in 2020, were retrospective in design, and were conducted in China, Italy, and the United States, several studies were cross-sectional or prospective, were conducted in other regions of the world, and were published in 2021. In addition, the sample sizes of the studies varied significantly, from <100 to >100,000. Moreover, the pathogens could be contributing to the heterogeneity, as different strains circulate within and between regions at different times, which potentially affects the observed COVID-19-related outcomes [607]. A subgroup analysis by the study design, the study area, and the sample size significantly decreased the heterogeneity.

This systematic review has several strengths. Unlike previous meta-analyses on related topics [5–32], this study: (i) involves a comprehensive analysis of a large number of studies that are based in different countries in the world; (ii) includes many articles that were published in 2021, after the introduction of the Delta strain; (iii) analyzes only peer-reviewed data; (iv) assesses the extensive analysis of the source of the heterogeneity and bias in the studies; and (v) compares the risk of admission to the ICU vs. no admission among hospitalized COVID-19 patients, and is stratified on the basis of comorbidities and demographic status.

Publication bias remains a challenge to a better understanding of the association between comorbidities and severe illness and death in COVID-19 patients. Most studies report frequencies or crude estimates that were not adjusted for potential confounders, which could affect the relationship between the comorbidities and the risk of severe illness or death in COVID-19 patients. In addition, the sample size and/or the number of severe cases or deaths in patients with varied comorbidities or demographic statuses were small in some studies, which increased the confidence interval estimates for the OR and decreased the power to reject false associations. These limitations in the original studies could have resulted in under- or overestimations of the summary OR estimates in the examination of the relationship between the demographics and comorbidities and this review's outcomes. Moreover, the incorporation of a random-effects analysis does not fully mitigate the challenges from the cross-sectional and retrospective designs in the original studies to include the potential for underappreciated selection biases. The studies assessed and reported the exposures to cardiovascular diseases, diabetes, and cerebrovascular diseases separately and differently, and so composite analyses that explore the misclassification biases and the missed interactions could not be undertaken. There is a risk that some patients may have been represented in more than one study [609]. Furthermore, some studies may have reported biased results that are due to a conflict of interest with the organization that was sponsoring the research. For example, a published article that claimed that smokers are protected against SARS-CoV-2 infection was retracted because of relationships with the tobacco industry [610].

5. Conclusions

While older ages and chronic diseases were shown to increase the risk of developing severe illness, admission to the ICU, and death among the COVID-19 patients in our analysis, a marked heterogeneity was present when linking the risks with the outcomes. The effect of liver disease was a notable exception; while the data were limited, they were consistently associated with worse outcomes. The COVID-19 outcomes in women need further exploration. Standardized approaches to the collection of and the reporting on

noncommunicable-disease risk factors and clinical outcomes would assist the recognition, prioritization, and development of the strategies against poor SARS-CoV-2 outcomes.

Supplementary Materials: The following supporting information can be downloaded at <https://www.mdpi.com/article/10.3390/pathogens11050563/s1>, Figure S1: Forest plot showing the relationship of cancer with the odds of severe illness among COVID-19 patients, Figure S2: Forest plot showing the relationship of cancer with the odds of admission to ICU among COVID-19 patients, Figure S3: Forest plot showing the relationship of chronic kidney disease with the odds of severe illness among COVID-19 patients, Figure S4: Forest plot showing the relationship of chronic kidney disease with the odds of admission to the ICU among COVID-19 patients, Figure S5: Forest plot showing the relationship of age with the odds of admission to the ICU among COVID-19 patients, Figure S6: Forest plot showing the relationship of gender with the odds of admission to the ICU among COVID-19 patients, Figure S7: Funnel plots showing the odds ratio of death, severe illness, and admission to the ICU against the standard errors based on comorbidity and age, Table S1: PRISMA 2009 Checklist, Table S2: Searching details Embase, Table S3: Characteristics of the studies, Table S4: Forest plot showing the relationship of hypertension with the odds of death among COVID-19 patients, Table S5: Forest plot showing the relationship of hypertension with the odds of severe illness among COVID-19 patients, Table S6: Forest plot showing the relationship of cardiovascular disease with the odds of death among COVID-19 patients, Table S7: Forest plot showing the relationship of cardiovascular disease with the odds of severe illness among COVID-19 patients, Table S8: Forest plot showing the relationship of diabetes with the odds of death among COVID-19 patients, Table S9: Forest plot showing the relationship of diabetes with the odds of severe illness among COVID-19 patients, Table S10: Forest plot showing the relationship of chronic respiratory disease with the odds of death among COVID-19 patients, Table S11: Forest plot showing the relationship of cancer with the odds of death among COVID-19 patients, Table S12: Forest plot showing the relationship of chronic kidney disease with the odds of death among COVID-19 patients, Table S13: Forest plot showing the relationship of smoking with the odds of death among COVID-19 patients, Table S14: Forest plot showing the relationship of age with the odds of death among COVID-19 patients, Table S15: Forest plot showing the relationship of age with the odds of severe illness among COVID-19 patients, Table S16: Forest plot showing the relationship of gender with the odds of death among COVID-19 patients, Table S17: Forest plot showing the relationship of gender with the odds of severe illness among COVID-19 patients, Table S18: Heterogeneity analyses of studies that examined the relationship of comorbidities and demography factors with death among COVID-19 patients, Table S19: Heterogeneity analyses of studies that examined the relationship of chronic kidney disease and demographic factors with severe illness among COVID-19 patients, Table S20: Heterogeneity analyses of studies that examined the relationship of comorbidities and demography factors with admission to the ICU among COVID-19 patients, Table S21: Meta-regression analysis examining factors affecting the odds ratio of death among COVID-19 patients with comorbidities at the study level, Table S22: Risk of bias and quality of the studies included in this review.

Author Contributions: A.D. designed the study protocol; Z.N. and J.K. searched for and screened the articles and abstracted the data from the articles. A.D. analyzed and interpreted the data and drafted the manuscript. D.B.-M. reviewed the manuscript and provided comments to improve the protocol and the manuscript. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: All data generated or analyzed during this study are included in this published article and in its Supplementary Information Files.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. WHO Coronavirus Disease (COVID-19) Dashboard. Available online: <https://covid19.who.int/> (accessed on 2 April 2022).
2. Zhang, X.; Tan, Y.; Ling, Y.; Lu, G.; Liu, F.; Yi, Z.; Jia, X.; Wu, M.; Shi, B.; Xu, S.; et al. Viral and host factors related to the clinical outcome of COVID-19. *Nature* **2020**, *583*, 437–440. [[CrossRef](#)] [[PubMed](#)]
3. Richardson, S.; Hirsch, J.S.; Narasimhan, M.; Crawford, J.M.; McGinn, T.; Davidson, K.W.; Barnaby, D.P.; Becker, L.B.; Chelico, J.D.; Cohen, S.L.; et al. Presenting Characteristics, Comorbidities and Outcomes among 5700 Patients Hospitalized with COVID-19 in the New York City Area. *JAMA* **2020**, *323*, 2052–2059. [[CrossRef](#)]
4. Liua, Y.; Gua, Z.; Xi, S.; Liu, Y.; Gu, Z.; Xia, S.; Shi, B.; Zhou, X.N.; Shi, Y.; Liu, J. What are the underlying transmission patterns of COVID-19 outbreak? An age-specific social contact characterization. *EClinicalMedicine* **2020**, *22*, 100354. [[CrossRef](#)] [[PubMed](#)]
5. Cai, X.; Wu, G.; Zhang, J.; Yang, L. Risk Factors for Acute Kidney Injury in Adult Patients with COVID-19: A Systematic Review and Meta-Analysis. *Front. Med.* **2021**, *8*, 719472. [[CrossRef](#)] [[PubMed](#)]
6. Gülsen, A.; König, I.R.; Jappe, U.; Drömann, D. Effect of comorbid pulmonary disease on the severity of COVID-19: A systematic review and meta-analysis. *Respirology* **2021**, *26*, 552–565. [[CrossRef](#)]
7. Aveyard, P.; Gao, M.; Lindson, N.; Hartmann-Boyce, J.; Watkinson, P.; Young, D.; Coupland, C.A.C.; Tan, P.S.; Clift, A.K.; Harrison, D.; et al. Association between pre-existing respiratory disease and its treatment, and severe COVID-19: A population cohort study. *Lancet Respir. Med.* **2021**, *9*, 909–923. [[CrossRef](#)]
8. Mishra, P.; Parveen, R.; Bajpai, R.; Samim, M.; Agarwal, N.B. Impact of cardiovascular diseases on severity of COVID-19 patients: A systematic review. *Ann. Acad. Med. Singap.* **2021**, *50*, 52–60. [[CrossRef](#)]
9. Harrison, S.L.; Buckley, B.J.R.; Rivera-Caravaca, J.M.; Zhang, J.; Lip, G.Y.H. Cardiovascular risk factors, cardiovascular disease, and COVID-19: An umbrella review of systematic reviews. *Eur. Heart J. Qual. Care Clin. Outcomes* **2021**, *7*, 330–339. [[CrossRef](#)]
10. Hessami, A.; Shamsirian, A.; Heydari, K.; Pournali, F.; Alizadeh-Navaei, R.; Moosazadeh, M.; Abrotan, S.; Shojaie, L.; Sedighi, S.; Shamsirian, D.; et al. Cardiovascular diseases burden in COVID-19: Systematic review and meta-analysis. *Am. J. Emerg. Med.* **2021**, *46*, 382–391. [[CrossRef](#)]
11. Geng, J.; Yu, X.; Bao, H.; Feng, Z.; Yuan, X.; Zhang, J.; Chen, X.; Chen, Y.; Li, C.; Yu, H. Chronic Diseases as a Predictor for Severity and Mortality of COVID-19: A Systematic Review with Cumulative Meta-Analysis. *Front. Med.* **2021**, *8*, 588013. [[CrossRef](#)]
12. Li, X.; Zhong, X.; Wang, Y.; Zeng, X.; Luo, T.; Liu, Q. Clinical determinants of the severity of COVID-19: A systematic review and meta-analysis. *PLoS ONE* **2021**, *16*, e0250602. [[CrossRef](#)]
13. Li, X.; Guan, B.; Su, T.; Liu, W.; Chen, M.; Bin, W.K.; Guan, X.; Gary, T.; Zhu, Z. Impact of cardiovascular disease and cardiac injury on in-hospital mortality in patients with COVID-19: A systematic review and meta-analysis. *Heart* **2020**, *106*, 1142–1147. [[CrossRef](#)]
14. Yang, J.; Zheng, Y.; Gou, X.; Pu, K.; Chen, Z.; Guo, Q.; Ji, R.; Wang, H.; Wang, Y.; Zhou, Y. Prevalence of comorbidities in the novel Wuhan coronavirus (COVID-19) infection: A systematic review and meta-analysis. *Int. J. Infect. Dis.* **2020**, *94*, 91–95. [[CrossRef](#)]
15. Zheng, Z.; Peng, F.; Xu, B.; Zhao, J.; Liu, H.; Peng, J.; Li, Q.; Jiang, C.; Zhou, Y.; Liu, S.; et al. Risk factors of critical and mortal COVID-19 cases: A systematic literature review and meta-analysis. *J. Infect.* **2020**, *81*, e16–e25. [[CrossRef](#)]
16. Ssentongo, P.; Ssentongo, A.E.; Heilbrunn, E.S.; Ba, D.M.; Chinchilli, V.M. Association of cardiovascular disease and 10 other pre-existing comorbidities with COVID-19 mortality: A systematic review and meta-analysis. *PLoS ONE* **2020**, *15*, e0238215. [[CrossRef](#)]
17. Pranata, R.; Huang, I.; Lim, M.A.; Wahjoepramono, E.J.; July, J. Impact of cerebrovascular and cardiovascular diseases on mortality and severity of COVID-19-systematic review, meta-analysis, and meta-regression. *J. Stroke Cerebrovasc. Dis.* **2020**, *29*, 104949. [[CrossRef](#)]
18. Chidambaram, V.; Tun, N.L.; Haque, W.Z.; Majella, M.G.; Sivakumar, R.K.; Kumar, A.; Hsu, A.T.; Ishak, I.A.; Nur, A.A.; Ayeh, S.K.; et al. Factors associated with disease severity and mortality among patients with COVID-19: A systematic review and meta-analysis. *PLoS ONE* **2020**, *15*, e0241541. [[CrossRef](#)]
19. Dessie, Z.G.; Zewotir, T. Mortality-related risk factors of COVID-19: A systematic review and meta-analysis of 42 studies and 423,117 patients. *BMC Infect. Dis.* **2021**, *21*, 855. [[CrossRef](#)]
20. Yang, L.; Chai, P.; Yu, J.; Fan, X. Effects of cancer on patients with COVID-19: A systematic review and meta-analysis of 63,019 participants. *Cancer Biol. Med.* **2021**, *18*, 298–307. [[CrossRef](#)]
21. Peravali, M.; Joshi, I.; Ahn, J.; Kim, C. A Systematic Review and Meta-Analysis of Clinical Characteristics and Outcomes in Patients with Lung Cancer with Coronavirus Disease 2019. *JTO Clin. Res. Rep.* **2021**, *2*, 100141. [[CrossRef](#)]
22. Tian, Y.; Qiu, X.; Wang, C.; Zhao, J.; Jiang, X.; Niu, W.; Huang, J.; Zhang, F. Cancer associates with risk and severe events of COVID-19: A systematic review and meta-analysis. *Int. J. Cancer.* **2021**, *148*, 363–374. [[CrossRef](#)]
23. Mohammed, S.A.; Eid, K.M.; Anyiam, F.E.; Wadaaallah, H.; Muhamed, M.A.M.; Morsi, M.H.; Dahman, N.B.H. Liver injury with COVID-19: Laboratory and histopathological outcome-systematic review and meta-analysis. *Egypt. Liver J.* **2022**, *12*, 9. [[CrossRef](#)]
24. Middleton, P.; Hsu, C.; Lythgoe, M.P. Clinical outcomes in COVID-19 and cirrhosis: A systematic review and meta-analysis of observational studies. *BMJ Open Gastroenterol.* **2021**, *8*, e000739. [[CrossRef](#)]
25. Kovalic, A.J.; Satapathy, S.K.; Thuluvath, P.J. Prevalence of chronic liver disease in patients with COVID-19 and their clinical outcomes: A systematic review and meta-analysis. *Hepatol. Int.* **2020**, *14*, 612–620. [[CrossRef](#)] [[PubMed](#)]
26. Jdiaa, S.S.; Mansour, R.; El Alayli, A.; Gautam, A.; Thomas, P.; Mustafa, R.A. COVID-19 and chronic kidney disease: An updated overview of reviews. *J. Nephrol.* **2022**, *35*, 69–85. [[CrossRef](#)] [[PubMed](#)]

27. Singh, J.; Malik, P.; Patel, N.; Pothuru, S.; Israni, A.; Chakinala, R.C.; Hussain, M.R.; Chidharla, A.; Patel, H.; Patel, S.K.; et al. Kidney disease and COVID-19 disease severity-systematic review and meta-analysis. *Clin. Exp. Med.* **2022**, *22*, 125–135. [[CrossRef](#)] [[PubMed](#)]
28. Liu, Y.F.; Zhang, Z.; Pan, X.L.; Xing, G.L.; Zhang, Y.; Liu, Z.S.; Tu, S.H. The chronic kidney disease and acute kidney injury involvement in COVID-19 pandemic: A systematic review and meta-analysis. *PLoS ONE* **2021**, *16*, e0244779. [[CrossRef](#)] [[PubMed](#)]
29. Cai, R.; Zhang, J.; Zhu, Y.; Liu, L.; Liu, Y.; He, Q. Mortality in chronic kidney disease patients with COVID-19: A systematic review and meta-analysis. *Int. Urol. Nephrol.* **2021**, *53*, 1623–1629. [[CrossRef](#)]
30. Han, S.; Zhuang, Q.; Chiang, J.; Tan, S.H.; Chua, G.W.Y.; Xie, C.; Chua, M.L.K.; Soon, Y.Y.; Yang, V.S. Impact of cancer diagnoses on the outcomes of patients with COVID-19: A systematic review and meta-analysis. *BMJ Open* **2022**, *12*, e044661. [[CrossRef](#)]
31. Ng, W.H.; Tipih, T.; Makoah, N.A.; Vermeulen, J.G.; Goedhals, D.; Sempa, J.B. Comorbidities in SARS-CoV-2 Patients: A Systematic Review and Meta-Analysis. *mBio* **2021**, *12*, e03647-20. [[CrossRef](#)]
32. Zhou, Y.; Yang, Q.; Chi, J.; Dong, B.; Lv, W.; Shen, L.; Wang, Y. Comorbidities and the risk of severe or fatal outcomes associated with coronavirus disease 2019: A systematic review and meta-analysis. *Int. J. Infect. Dis.* **2020**, *99*, 47–56. [[CrossRef](#)]
33. Moher, D.; Liberati, A.; Tetzlaff, J.; Altman, D.G.; The PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med.* **2009**, *6*, e1000097. [[CrossRef](#)]
34. Degarege, A.; Naveed, Z.; Kabayundo, J. Risk Factors for Severe Illness and Death in COVID-19: A Systematic Review and Meta-Analysis. 2020. Available online: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020184440 (accessed on 6 July 2020).
35. NIH. COVID-19 Treatment Guidelines. Management of Persons with COVID-19. Available online: <https://www.covid19treatmentguidelines.nih.gov/overview/management-of-covid-19/> (accessed on 5 August 2020).
36. Effective Public Health Practice Project. Quality Assessment Tool for Quantitative Studies. Available online: <https://healthsci.mcmaster.ca/merst/ephpp> (accessed on 4 May 2022).
37. Higgins, J.P.T.; Thompson, S.G.; Deeks, J.J.; Altman, D.G. Measuring inconsistency in meta-analyses. *BMJ* **2003**, *327*, 557–560. [[CrossRef](#)]
38. DerSimonian, R.; Laird, N. Meta-analysis in clinical trials. *Control. Clin. Trials* **1986**, *7*, 177–188. [[CrossRef](#)]
39. Baker, W.L.; White, C.M.; Cappelleri, J.C.; Kluger, J.; Coleman, C.I. Understanding heterogeneity in meta-analysis: The role of meta-regression. *Int. J. Clin. Pract.* **2009**, *63*, 1426–1434. [[CrossRef](#)]
40. Hayashino, Y.; Noguchi, Y.; Fukui, T. Systematic evaluation and comparison of statistical tests for publication bias. *J. Epidemiol.* **2005**, *15*, 235–243. [[CrossRef](#)]
41. Abbas, H.M.; Nassir, K.F.; Aga, Q.A.A.K.; Al-Gharawi, A.A.; Rasheed, J.I.; Al-Obaidy, M.W.; Jubouri, A.M.A.; Jaber, A.S.; Aga, L.A.A.K. Presenting the characteristics, smoking versus diabetes, and outcome among patients hospitalized with COVID-19. *J. Med. Virol.* **2021**, *93*, 1556–1567. [[CrossRef](#)]
42. Acar, H.C.; Can, G.; Karaali, R.; Börekçi, Ş.; Balkan, İ.; Gemicioğlu, B.; Konukoğlu, D.; Erginöz, E.; Erdoğan, M.S.; Tabak, F. An easy-to-use nomogram for predicting in-hospital mortality risk in COVID-19: A retrospective cohort study in a university hospital. *BMC Infect. Dis.* **2021**, *21*, 148. [[CrossRef](#)]
43. Adamuz, J.; González-Samartino, M.; Jiménez-Martínez, E.; Tapia-Pérez, M.; López-Jiménez, M.M.; Rodríguez-Fernández, H.; Castro-Navarro, T.; Zuriguel-Pérez, E.; Carratala, J.; Juvé-Udina, M.E. Risk of acute deterioration and care complexity individual factors associated with health outcomes in hospitalised patients with COVID-19: A multicentre cohort study. *BMJ Open* **2021**, *11*, e041726. [[CrossRef](#)]
44. Agarwal, M.A.; Ziaei, B.; Lavie, C.J.; Fonarow, G.C. Cardiovascular disease in hospitalized patients with a diagnosis of coronavirus from the pre-COVID-19 era in united states: National analysis from 2016–2017. *Mayo Clin. Proc.* **2020**, *95*, 2674–2683. [[CrossRef](#)]
45. Aggarwal, S.; Garcia-Telles, N.; Aggarwal, G.; Lavie, C.; Lippi, G.; Henry, B.M. Clinical features, laboratory characteristics, and outcomes of patients hospitalized with coronavirus disease 2019 (COVID-19): Early report from the United States. *Diagnosis* **2020**, *7*, 91–96. [[CrossRef](#)]
46. Ahmad, M.; Beg, B.M.; Majeed, A.; Areej, S.; Riffat, S.; Rasheed, M.A.; Mahmood, S.; Mushtaq, R.M.Z.; Hafeez, M.A. Epidemiological and clinical characteristics of COVID-19: A retrospective multi-center study in pakistan. *Front. Public Health* **2021**, *9*, 644199. [[CrossRef](#)]
47. Aiswarya, D.; Arumugam, V.; Dineshkumar, T.; Gopalakrishnan, N.; Lamech, T.M.; Nithya, G.; Sastry, B.; Vathsalyan, P.; Dhanapriya, J.; Sakthirajan, R. Use of remdesivir in patients with COVID-19 on hemodialysis: A study of safety and tolerance. *Kidney Int. Rep.* **2021**, *6*, 586–593. [[CrossRef](#)]
48. Akbariqomi, M.; Hosseini, M.S.; Rashidiani, J.; Sedighian, H.; Biganeh, H.; Heidari, R.; Moghaddam, M.M.; Farnoosh, G.; Kooshki, H. Clinical characteristics and outcome of hospitalized COVID-19 patients with diabetes: A single-center, retrospective study in iran. *Diabetes Res. Clin. Pract.* **2020**, *169*, 108467. [[CrossRef](#)]
49. Akhtar, Z.; Gallagher, M.M.; Yap, Y.G.; Leung, L.W.M.; Elbatran, A.I.; Madden, B.; Ewasiuk, V.; Gregory, L.; Breathnach, A.; Chen, Z.; et al. Prolonged QT predicts prognosis in COVID-19. *Pacing Clin. Electrophysiol.* **2021**, *44*, 875–882. [[CrossRef](#)]
50. Alahmari, A.A.; Khan, A.A.; Elganainy, A.; Almohammadi, E.L.; Hakawi, A.M.; Assiri, A.M.; Jokhdar, H.A. Epidemiological and clinical features of COVID-19 patients in Saudi Arabia. *J. Infect. Public Health* **2021**, *14*, 437–443. [[CrossRef](#)]

51. Alasia, D.; Owhonda, G.; Maduka, O.; Nwadiuto, I.; Arugu, G.; Tobin-West, C.; Azi, E.; Oris-Onyiri, V.; Urang, I.J.; Abikor, V.; et al. Clinical and epidemiological characteristics of 646 hospitalised SARS-cov-2 positive patients in rivers state nigeria: A prospective observational study. *Pan Afr. Med. J.* **2021**, *38*, 25. [[CrossRef](#)]
52. Albani, F.; Sepe, L.; Fusina, F.; Prezioso, C.; Baronio, M.; Caminiti, F.; Maio, A.D.; Faggian, B.; Franceschetti, M.E.; Massari, M. Thromboprophylaxis with enoxaparin is associated with a lower death rate in patients hospitalized with SARS-CoV-2 infection. A cohort study. *EClinicalMedicine* **2020**, *27*, 100562. [[CrossRef](#)]
53. Alberici, F.; Delbarba, E.; Manenti, C.; Econimo, L.; Valerio, F.; Pola, A.; Maffei, C.; Possenti, S.; Lucca, B.; Cortinovis, R.; et al. A report from the brescia renal COVID task force on the clinical characteristics and short-term outcome of hemodialysis patients with SARS-CoV-2 infection. *Kidney Int.* **2020**, *98*, 20–26. [[CrossRef](#)]
54. Alfraj, A.; Alamir, A.A.B.; Al-Otaibi, A.M.; Alsharrah, D.; Aldaithan, A.; Kamel, A.M.; Almutairi, M.; Alshammari, S.; Almazyad, M.; Macarambon, J.M.; et al. Characteristics and outcomes of coronavirus disease 2019 (COVID-19) in critically ill pediatric patients admitted to the intensive care unit: A multicenter retrospective cohort study. *J. Infect. Public Health* **2021**, *14*, 193–200. [[CrossRef](#)]
55. Algado-Sellés, N.; Gras-Valentí, P.; Chico-Sánchez, P.; Mora-Muriel, J.G.; Soler-Molina, V.M.; Hernández-Maldonado, M.; Lameiras-Azevedo, A.S.; Jiménez-Sepúlveda, N.J.; Gómez-Sotero, I.L.; Villanueva-Ruiz, C.O.; et al. Frequency, associated risk factors, and characteristics of COVID-19 among healthcare personnel in a spanish health department. *Am. J. Prev. Med.* **2020**, *59*, e221–e229. [[CrossRef](#)] [[PubMed](#)]
56. Alguwaihes, A.M.; Sabico, S.; Hasanato, R.; Al-Sofiani, M.; Megdad, M.; Albader, S.S.; Alsari, M.H.; Alelayan, A.; Alyusuf, E.Y.; Alzahrani, S.H.; et al. Severe vitamin D deficiency is not related to SARS-CoV-2 infection but may increase mortality risk in hospitalized adults: A retrospective case–control study in an arab gulf country. *Aging Clin. Exp. Res.* **2021**, *33*, 1415–1422. [[CrossRef](#)] [[PubMed](#)]
57. Aliberti, M.J.R.; Covinsky, K.E.; Garcez, F.B.; Smith, A.K.; Curiati, P.K.; Lee, S.J.; Dias, M.B.; Melo, V.J.D.; do Rego-Júnior, O.F.; Richinho, V.D.P.; et al. A fuller picture of COVID-19 prognosis: The added value of vulnerability measures to predict mortality in hospitalised older adults. *Age Ageing* **2021**, *50*, 32–39. [[CrossRef](#)] [[PubMed](#)]
58. Allameh, S.F.; Nemati, S.; Ghalehtaki, R.; Mohammadnejad, E.; Aghili, S.M.; Khajavirad, N.; Beigmohammadi, M.; Salehi, M.; Mirfazaelian, H.; Edalatifard, M.; et al. Clinical Characteristics and Outcomes of 905 COVID-19 Patients Admitted to Imam Khomeini Hospital Complex in the Capital City of Tehran, Iran. *Arch. Iran. Med.* **2020**, *23*, 766–775. [[CrossRef](#)]
59. Allard, L.; Ouedraogo, E.; Molleville, J.; Bihan, H.; Giroux-Leprieur, B.; Sutton, A.; Baudry, C.; Josse, C.; Didier, M.; Deutsch, D.; et al. Malnutrition: Percentage and association with prognosis in patients hospitalized for coronavirus disease 2019. *Nutrients* **2020**, *12*, 3679. [[CrossRef](#)]
60. Allenbach, Y.; Saadoun, D.; Maalouf, G.; Vieira, M.; Hellio, A.; Boddaert, J.; Gros, H.; Salem, J.E.; Rigon, M.R.; Menyssa, C.; et al. Development of a multivariate prediction model of intensive care unit transfer or death: A French prospective cohort study of hospitalized COVID-19 patients. *PLoS ONE* **2020**, *15*, e0240711. [[CrossRef](#)]
61. Almaghlouth, N.K.; Davis, M.G.; Davis, M.A.; Anyiam, F.E.; Guevara, R.; Antony, S.J. Risk factors for mortality among patients with SARS-CoV-2 infection: A longitudinal observational study. *J. Med. Virol.* **2021**, *93*, 2021–2028. [[CrossRef](#)]
62. Aloisio, E.; Chibireva, M.; Serafini, L.; Pasqualetti, S.; Falvella, F.S.; Dolci, A.; Panteghini, M. A comprehensive appraisal of laboratory biochemistry tests as major predictors of COVID-19 severity. *Arch. Pathol. Lab. Med.* **2020**, *144*, 1457–1464. [[CrossRef](#)]
63. Alqahtani, A.M.; Al Malki, Z.S.; Alalweet, R.M.; Almazrou, S.H.; Alanazi, A.S.; Alanazi, M.A.; AlShehri, A.A.; AlGhamdi, S. Assessing the severity of illness in patients with coronavirus disease in Saudi Arabia: A retrospective descriptive cross-sectional study. *Front. Public Health* **2020**, *8*, 593256. [[CrossRef](#)]
64. Al-Rousan, N.; Al-Najjar, H. Data Analysis of Coronavirus CoVID-19 Epidemic in South Korea Based on Recovered and Death Cases. *J. Med. Virol.* **2020**, *92*, 1603–1608. [[CrossRef](#)]
65. Al-Salameh, A.; Lanoix, J.P.; Bennis, Y.; Andrejak, C.; Brochot, E.; Deschasse, G.; Dupont, H.; Goeb, V.; Jaureguy, M.; Lion, S.; et al. Characteristics and outcomes of COVID-19 in hospitalized patients with and without diabetes. *Diabetes Metab. Res.* **2021**, *37*, e3388. [[CrossRef](#)]
66. Al-Samkari, H.; Leaf, R.S.K.; Dzik, W.H.; Carlson, J.C.T.; Fogerty, A.E.; Waheed, A.; Goodarzi, K.; Bendapudi, P.K.; Bornikova, L.; Gupta, S.; et al. COVID-19 and coagulation: Bleeding and thrombotic manifestations of SARS-CoV-2 infection. *Blood* **2020**, *136*, 489–500. [[CrossRef](#)]
67. Alser, O.; Mokhtari, A.; Naar, L.; Langeveld, K.; Breen, K.A.; Moheb, M.E.; Kapoen, C.; Gaitanidis, A.; Christensen, M.A.; Maurer, L.R.; et al. Multisystem outcomes and predictors of mortality in critically ill patients with COVID-19: Demographics and disease acuity matter more than comorbidities or treatment modalities. *J. Trauma Acute Care Surg.* **2021**, *90*, 880–890. [[CrossRef](#)]
68. Alsharidah, S.; Ayed, M.; Ameen, R.M.; Alhuraish, F.; Rouheldeen, N.A.; Alshammari, F.R.; Embaireeg, A.; Almelahi, M.; Adel, M.; Dawoud, M.E.; et al. COVID-19 convalescent plasma treatment of moderate and severe cases of SARS-CoV-2 infection: A multicenter interventional study. *Int. J. Infect. Dis.* **2021**, *103*, 439–446. [[CrossRef](#)]
69. Altschul, D.J.; Unda, S.R.; Benton, J.; Ramos, R.d.I.G.; Cezayirli, P.; Mehler, M.; Eskandar, E.N. A novel severity score to predict inpatient mortality in COVID-19 patients. *Sci. Rep.* **2020**, *10*, 16726. [[CrossRef](#)]
70. Alzaid, F.; Julla, J.B.; Diedisheim, M.; Potier, C.; Potier, L.; Velho, G.; Gaborit, B.; Manivet, P.; Germain, S.; Vidal-Trecan, T.; et al. Monocytopenia, monocyte morphological anomalies and hyperinflammation characterise severe COVID-19 in type 2 diabetes. *EMBO Mol. Med.* **2020**, *12*, e13038. [[CrossRef](#)]

71. Amanat, M.; Rezaei, N.; Roozbeh, M.; Shojaei, M.; Tafakhori, A.; Zoghi, A.; Darazam, I.A.; Salehi, M.; Karimialavijeh, E.; Lima, B.S.; et al. Neurological manifestations as the predictors of severity and mortality in hospitalized individuals with COVID-19: A multicenter prospective clinical study. *BMC Neurol.* **2021**, *21*, 116. [[CrossRef](#)]
72. Amo, J.D.; Polo, R.; Moreno, S.; Diaz, A.; Martinez, E.; Arribas, J.R.; Jarrin, I.; Hernan, M.A. Incidence and severity of COVID-19 in HIV-positive persons receiving antiretroviral therapy: A cohort study. *Ann. Intern. Med.* **2020**, *173*, 536–541.
73. Anaklı, İ.; Özcan, P.E.; Polat, Ö.; Orhun, G.; Alay, G.H.; Tuna, V.; Çeliksoy, E.; Kılıç, M.; Mercan, M.; Ali, A.; et al. Prognostic value of antithrombin levels in COVID-19 patients and impact of fresh frozen plasma treatment: A retrospective study. *Turk. J. Hematol.* **2021**, *38*, 15–21. [[CrossRef](#)]
74. Anantharaman, A.; Dusendang, J.R.; Schmittiel, J.A.; Harzstark, A.L. SARS-CoV-2 clinical outcomes in patients with cancer in a large integrated health care system in northern California. *Oncologist* **2021**, *26*, e500–e504. [[CrossRef](#)]
75. Andargie, T.E.; Tsuji, N.; Seifuddin, F.; Jang, M.K.; Yuen, P.S.; Kong, H.; Tunc, I.; Singh, K.; Charya, A.; Wilkins, K.; et al. Cell-free DNA maps COVID-19 tissue injury and risk of death and can cause tissue injury. *JCI Insight* **2021**, *6*, 147610. [[CrossRef](#)]
76. Angelidi, A.M.; Belanger, M.J.; Lorinsky, M.K.; Karamanis, D.; Chamorro-Pareja, N.; Ognibene, J.; Palaiodimos, L.; Mantzoros, C.S. Vitamin D status is associated with in-hospital mortality and mechanical ventilation: A cohort of COVID-19 hospitalized patients. *Mayo Clin. Proc.* **2021**, *96*, 875–886. [[CrossRef](#)]
77. Angelis, V.; Tippu, Z.; Joshi, K.; Reis, S.; Gronthoud, F.; Fribbens, C.; Okines, A.; Stanway, S.; Cottier, E.; McGrath, S.; et al. Defining the true impact of coronavirus disease 2019 in the at-risk population of patients with cancer. *Eur. J. Cancer* **2020**, *136*, 99–106. [[CrossRef](#)]
78. Annweiler, G.; Corvaisier, M.; Gautier, J.; Dubée, V.; Legrand, E.; Sacco, G.; Annweiler, C. Vitamin D supplementation associated to better survival in hospitalized frail elderly COVID-19 patients: The GERIA-COVID quasi-experimental study. *Nutrients* **2020**, *12*, 3377. [[CrossRef](#)]
79. Antúnez-Montes, O.Y.; Escamilla, M.I.; Figueroa-Uribe, A.F.; Arteaga-Menchaca, E.; Lavariega-Saráchaga, M.; Salcedo-Lozada, P.; Melchior, P.; de Oliveira, R.B.; Tirado Caballero, J.C.; Redondo, H.P.; et al. COVID-19 and Multisystem Inflammatory Syndrome in Latin American Children: A Multinational Study. *Pediatr Infect Dis. J.* **2021**, *40*, e1–e6. [[CrossRef](#)]
80. Aoun, M.; Khalil, R.; Mahfoud, W.; Fatfat, H.; Khalil, L.B.; Alameddine, R.; Afiouni, N.; Ibrahim, I.; Hassan, M.; Zarzour, H.; et al. Age and multimorbidities as poor prognostic factors for COVID-19 in hemodialysis: A Lebanese national study. *BMC Nephrol.* **2021**, *22*, 73. [[CrossRef](#)]
81. Apea, V.J.; Wan, Y.I.; Dhairyawan, R.; Puthuchear, Z.A.; Pearse, R.M.; Orkin, C.M.; Prowle, J.R. Ethnicity and outcomes in patients hospitalised with COVID-19 infection in east London: An observational cohort study. *BMJ Open* **2021**, *11*, e042140. [[CrossRef](#)]
82. Atkins, J.L.; Masoli, J.A.H.; Delgado, J.; Pilling, L.C.; Kuo, C.; Kuchel, G.A.; Melzer, D. Preexisting comorbidities predicting COVID-19 and mortality in the UK biobank community cohort. *J. Gerontol. Ser. A Biol. Sci. Med. Sci.* **2020**, *75*, 2224–2230. [[CrossRef](#)]
83. Attaubi, M.; Seidelin, J.B.; Felding, O.K.; Wewer, M.D.; Arp, L.K.V.; Sarikaya, M.Z.; Egeberg, A.; Vladimirova, N.; Bendtsen, F.; Burisch, J. Coronavirus disease 2019, immune-mediated inflammatory diseases and immunosuppressive therapies—A Danish population-based cohort study. *J. Autoimmun.* **2021**, *118*, 102613. [[CrossRef](#)]
84. Auld, S.C.; Caridi-Scheible, M.; Blum, J.M.; Robichaux, C.; Kraft, C.; Jacob, J.T.; Jabaley, C.S.; Carpenter, D.; Kaplow, R.; Hernandez-Romieu, A.C.; et al. ICU and ventilator mortality among critically ill adults with coronavirus disease 2019. *Crit. Care Med.* **2020**, *48*, e799–e804. [[CrossRef](#)]
85. Avci, H.; Karabulut, B.; Farasoglu, A.; Boldaz, E.; Evman, M. Relationship between anosmia and hospitalisation in patients with coronavirus disease 2019: An otolaryngological perspective. *J. Laryngol. Otol.* **2020**, *134*, 710–716. [[CrossRef](#)] [[PubMed](#)]
86. Avruscio, G.; Camporese, G.; Campello, E.; Bernardi, E.; Persona, P.; Passarella, C.; Noventa, F.; Cola, M.; Navalesi, P.; Cattelan, A.; et al. COVID-19 and venous thromboembolism in intensive care or medical ward. *Clin. Transl. Sci.* **2020**, *13*, 1108–1114. [[CrossRef](#)] [[PubMed](#)]
87. Aw, D.; Woodrow, L.; Ogliari, G.; Harwood, R. Association of frailty with mortality in older inpatients with covid-19: A cohort study. *Age Ageing* **2020**, *49*, 915–922. [[CrossRef](#)] [[PubMed](#)]
88. Awad, N.; Schiller, D.S.; Fulman, M.; Chak, A. Impact of hydroxychloroquine on disease progression and ICU admissions in patients with SARS-CoV-2 infection. *Am. J. Health Syst. Pharm.* **2021**, *78*, 689–696. [[CrossRef](#)] [[PubMed](#)]
89. Azar, K.M.J.; Shen, Z.; Romanelli, R.J.; Lockhart, S.H.; Smits, K.; Robinson, S.; Brown, S.; Pressman, A.R. Disparities in outcomes among COVID-19 patients in a large health care system in California. *Health Aff.* **2020**, *39*, 1253–1262. [[CrossRef](#)]
90. Azwar, M.K.; Setiati, S.; Rizka, A.; Fitriana, I.; Saldi, S.R.F.; Safitri, E.D. Clinical Profile of Elderly Patients with COVID-19 Hospitalised in Indonesia's National General Hospital. *Acta Med. Indones.* **2020**, *52*, 199–205.
91. Baggio, J.A.O.; Machado, M.F.; Carmo, R.F.D.; Armstrong, A.D.C.; Santos, A.D.D.; Souza, C.D.F. COVID-19 in Brazil: Spatial risk, social vulnerability, human development, clinical manifestations and predictors of mortality—A retrospective study with data from 59,695 individuals. *Epidemiol. Infect.* **2021**, *149*, e100. [[CrossRef](#)]
92. Bailey, L.C.; Razzaghi, H.; Burrows, E.K.; Bunnell, H.T.; Camacho, P.E.F.; Christakis, D.A.; Eckrich, D.; Kitzmiller, M.; Lin, S.M.; Magnusen, B.C.; et al. Assessment of 135,794 pediatric patients tested for severe acute respiratory syndrome coronavirus 2 across the United States. *JAMA Pediatrics* **2021**, *175*, 176–184. [[CrossRef](#)]

93. Bannaga, A.S.; Tabuso, M.; Farrugia, A.; Chandrapalan, S.; Somal, K.; Lim, V.K.; Mohamed, S.; Nia, G.J.; Mannath, J.; Wong, J.L.H.; et al. C-reactive protein and albumin association with mortality of hospitalised SARS-CoV-2 patients: A tertiary hospital experience. *Clin. Med.* **2020**, *20*, 463–467. [[CrossRef](#)]
94. Baqui, P.; Bica, I.; Marra, V.; Ercole, A.; van der Schaar, M. Ethnic and regional variations in hospital mortality from COVID-19 in Brazil: A cross-sectional observational study. *Lancet Glob. Health* **2020**, *8*, e1018–e1026. [[CrossRef](#)]
95. Barbui, T.; Vannucchi, A.M.; Alvarez-Larran, A.; Iurlo, A.; Masciulli, A.; Carobbio, A.; Ghirardi, A.; Ferrari, A.; Rossi, G.; Elli, E.; et al. High mortality rate in COVID-19 patients with myeloproliferative neoplasms after abrupt withdrawal of ruxolitinib. *Leukemia* **2021**, *35*, 485–493. [[CrossRef](#)]
96. Barron, E.; Bakhai, C.; Kar, P.; Weaver, A.; Bradley, D.; Ismail, H.; Knighton, P.; Holman, N.; Khunti, K.; Satta, N.; et al. Type 1 and type 2 diabetes and COVID-19 related mortality in England: A whole population study. *Diabetes Prim. Care* **2020**, *22*, 60.
97. Bartoletti, M.; Marconi, L.; Scudeller, L.; Pancaldi, L.; Tedeschi, S.; Giannella, M.; Rinaldi, M.; Bussini, L.; Valentini, I.; Ferravante, A.F.; et al. Efficacy of corticosteroid treatment for hospitalized patients with severe COVID-19: A multicentre study. *Clin. Microbiol. Infect.* **2021**, *27*, 105–111. [[CrossRef](#)]
98. Başaran, N.Ç.; Uyaroğlu, O.A.; Dizman, G.T.; Özişik, L.; Şahin, T.K.; Taş, Z.; İnkaya, A.Ç.; Karahan, S.; Alp, Ş.; Alp, A.; et al. Outcome of noncritical COVID-19 patients with early hospitalization and early antiviral treatment outside the ICU. *Turk. J. Med. Sci.* **2021**, *51*, 411–420. [[CrossRef](#)]
99. Bauer, A.Z.; Gore, R.; Sama, S.R.; Rosiello, R.; Garber, L.; Sundaresan, D.; McDonald, A.; Arruda, P.; Kriebel, D. Hypertension, medications, and risk of severe COVID-19: A Massachusetts community-based observational study. *J. Clin. Hypertens.* **2021**, *23*, 21–27. [[CrossRef](#)]
100. Becerra-Muñoz, V.M.; Núñez-Gil, I.J.; Eid, C.M.; Aguado, M.G.; Romero, R.; Huang, J.; Mulet, A.; Ugo, F.; Rametta, F.; Liebetrau, C.; et al. Clinical profile and predictors of in-hospital mortality among older patients hospitalised for COVID-19. *Age Ageing* **2021**, *50*, 326–334. [[CrossRef](#)]
101. Bedock, D.; Lassen, P.B.; Mathian, A.; Moreau, P.; Couffignal, J.; Ciangura, C.; Poitou-Bernert, C.; Jeannin, A.C.; Mosbah, H.; Fadlallah, J.; et al. Prevalence and severity of malnutrition in hospitalized COVID-19 patients. *Clin. Nutr. ESPEN* **2020**, *40*, 214–219. [[CrossRef](#)]
102. Belli, L.S.; Fondevila, C.; Cortesi, P.A.; Conti, S.; Karam, V.; Adam, R.; Coilly, A.; Ericzon, B.G.; Loinaz, C.; Cuervas-Mons, V.; et al. Protective role of tacrolimus, deleterious role of age and comorbidities in liver transplant recipients with COVID-19: Results from the ELITA/ELTR multi-center European study. *Gastroenterology* **2021**, *160*, 1151–1163.e3. [[CrossRef](#)]
103. Berenguer, J.; Ryan, P.; Rodríguez-Baño, J.; Jarrín, I.; Carratalà, J.; Pachón, J.; Yllescas, M.; Arriba, J.R.; COVID-19@Spain Study Group; Fundación SEIMC-GESIDA; et al. Characteristics and predictors of death among 4035 consecutively hospitalized patients with COVID-19 in Spain. *Clin. Microbiol. Infect.* **2020**, *26*, 1525–1536. [[CrossRef](#)]
104. Bernard, A.; Cottenet, J.; Bonniaud, P.; Piroth, L.; Arveux, P.; Tubert-Bitter, P.; Quantin, C.; Marosi, C.; Abraham, D. Comparison of cancer patients to non-cancer patients among COVID-19 inpatients at a national level. *Cancers* **2021**, *13*, 1436. [[CrossRef](#)]
105. Bertsimas, D.; Lukin, G.; Mingardi, L.; Nohadani, O.; Orfanoudaki, A.; Stellato, B.; Wiberg, H.; Gonzalez-Garcia, S.; Parra-Calderón, C.L.; Robinson, K.; et al. COVID-19 mortality risk assessment: An international multi-center study. *PLoS ONE* **2020**, *15*, e0243262. [[CrossRef](#)]
106. Betti, M.; Bertolotti, M.; Ferrante, D.; Roveta, A.; Pelazza, C.; Giacchero, F.; Penpa, S.; Massarino, C.; Bolgeo, T.; Cassinari, A.; et al. Baseline clinical characteristics and prognostic factors in hospitalized COVID-19 patients aged ≤65 years: A retrospective observational study. *PLoS ONE* **2021**, *16*, e0248829. [[CrossRef](#)]
107. Bezzio, C.; Saibeni, S.; Variola, A.; Allocca, M.; Massari, A.; Gerardi, V.; Casini, V.; Ricci, C.; Zingone, F.; Amato, A.; et al. Outcomes of COVID-19 in 79 patients with IBD in Italy: An IG-IBD study. *Gut* **2020**, *69*, 1213–1217. [[CrossRef](#)] [[PubMed](#)]
108. Bhargava, A.; Fukushima, E.A.; Levine, M.; Zhao, W.; Tanveer, F.; Szpunar, S.M.; Saravolatz, L. Predictors for severe COVID-19 infection. *Clin. Infect. Dis.* **2020**, *71*, 1962–1968. [[CrossRef](#)]
109. Bhatt, A.S.; Jering, K.S.; Vaduganathan, M.; Claggett, B.L.; Cunningham, J.W.; Rosenthal, N.; Signorovitch, J.; Thune, J.J.; Vardeny, O.; Solomon, S.D. Clinical outcomes in patients with heart failure hospitalized with COVID-19. *JACC Heart Fail.* **2021**, *9*, 65–73. [[CrossRef](#)] [[PubMed](#)]
110. Bi, Q.; Wu, Y.; Mei, S.; Ye, C.; Zou, X.; Zhang, Z.; Liu, X.; Wei, L.; Truelove, S.A.; Zhang, T.; et al. Epidemiology and transmission of COVID-19 in 391 cases and 1286 of their close contacts in Shenzhen, China: A retrospective cohort study. *Lancet Infect. Dis.* **2020**, *20*, 911–919. [[CrossRef](#)]
111. Bi, X.; Su, Z.; Yan, H.; Du, J.; Wang, J.; Chen, L.; Peng, M.; Chen, S.; Shen, B.; Li, J. Prediction of Severe Illness Due to COVID-19 Based on an Analysis of Initial Fibrinogen to Albumin Ratio and Platelet Count. *Platelets* **2020**, *31*, 674–679. [[CrossRef](#)]
112. Bianchetti, A.; Rozzini, R.; Guerini, F.; Boffelli, S.; Ranieri, P.; Minelli, G.; Bianchetti, L.; Trabucchi, M. Clinical presentation of COVID19 in dementia patients. *J. Nutr. Health Aging* **2020**, *24*, 560–562. [[CrossRef](#)]
113. Bielza, R.; Sanz, J.; Zambrana, F.; Arias, E.; Malmierca, E.; Portillo, L.; Thuissard, I.J.; Lung, A.; Neira, M.; Moral, M.; et al. Clinical characteristics, frailty, and mortality of residents with COVID-19 in nursing homes of a region of madrid. *J. Am. Med. Dir. Assoc.* **2021**, *22*, 245. [[CrossRef](#)] [[PubMed](#)]
114. Bode, B.; Garrett, V.; Messler, J.; McFarland, R.; Crowe, J.; Booth, R.; Klonoff, D.C. Glycemic characteristics and clinical outcomes of COVID-19 patients hospitalized in the United States. *J. Diabetes Sci. Technol.* **2020**, *14*, 813–821. [[CrossRef](#)] [[PubMed](#)]

115. Boero, E.; Rovida, S.; Schreiber, A.; Berchiolla, P.; Charrier, L.; Cravino, M.M.; Converso, M.; Gollini, P.; Puppo, M.; Gravina, A.; et al. The COVID-19 worsening score (COWS)—A predictive bedside tool for critical illness. *Echocardiography* **2021**, *38*, 207–216. [[CrossRef](#)]
116. Bolouri, H.; Speake, C.; Skibinski, D.; Long, S.A.; Hocking, A.M.; Campbell, D.J.; Hamerman, J.A.; Malhotra, U.; Buckner, J.H.; Benaroya Research Institute COVID-19 Research Team. The COVID-19 immune landscape is dynamically and reversibly correlated with disease severity. *J. Clin. Investig.* **2021**, *131*, e143648. [[CrossRef](#)]
117. Bossini, N.; Alberici, F.; Delbarba, E.; Valerio, F.; Manenti, C.; Possenti, S.; Econimo, L.; Maffei, C.; Pola, A.; Terlizzi, V.; et al. Kidney Transplant Patients with SARS-CoV-2 Infection: The Brescia Renal COVID Task Force Experience. *Am. J. Transplant.* **2020**, *20*, 3019–3029. [[CrossRef](#)]
118. Botta, M.; Tsonas, A.M.; Pillay, J.; Boers, L.S.; Algera, A.G.; Bos, L.D.J.; Dongelmans, D.A.; Hollmann, M.W.; Horn, J.; Vlaar, A.P.J.; et al. Ventilation management and clinical outcomes in invasively ventilated patients with COVID-19 (PRoVENT-COVID): A national, multicentre, observational cohort study. *Lancet Respir. Med.* **2021**, *9*, 139–148. [[CrossRef](#)]
119. Bottio, T.; Bagozzi, L.; Fiocco, A.; Nadali, M.; Caraffa, R.; Bifulco, O.; Ponzoni, M.; Lombardi, C.M.; Metra, M.; Russo, C.F.; et al. COVID-19 in heart transplant recipients: A multicenter analysis of the Northern Italian outbreak. *JACC Heart. Fail.* **2021**, *9*, 52–61. [[CrossRef](#)]
120. Brandão Neto, R.A.; Marchini, J.F.; Marino, L.O.; Alencar, J.C.G.; Lazar Neto, F.; Ribeiro, S.; Salvetti, F.V.; Rahhal, H.; Gomez Gomez, L.M.; Bueno, C.G.; et al. Mortality and other outcomes of patients with coronavirus disease pneumonia admitted to the emergency department: A prospective observational Brazilian study. *PLoS ONE* **2021**, *16*, e0244532.
121. Bravi, F.; Flacco, M.E.; Carradori, T.; Volta, C.A.; Cosenza, G.; De Togni, A.; Acuti Martellucci, C.; Parruti, G.; Mantovani, L.; Manzoli, L. Predictors of severe or lethal COVID-19, including angiotensin converting enzyme inhibitors and angiotensin II receptor blockers, in a sample of infected Italian citizens. *PLoS ONE* **2020**, *15*, e0235248. [[CrossRef](#)]
122. Brenner, E.J.; Ungaro, R.C.; Gearry, R.B.; Kaplan, G.G.; Kissous-Hunt, M.; Lewis, J.D.; Ng, S.C.; Rahier, J.F.; Reinisch, W.; Rummel, F.M.; et al. Corticosteroids, but not TNF antagonists, are associated with adverse COVID-19 outcomes in patients with inflammatory bowel diseases: Results from an international registry. *Gastroenterology* **2020**, *159*, 481–491.e3. [[CrossRef](#)]
123. Brouns, S.H.; Brüggemann, R.; Linkens, A.E.M.J.H.; Magdelijns, F.J.; Joosten, H.; Heijnen, R.; Ten Cate-Hoek, A.J.; Schols, J.M.G.A.; Ten Cate, H.; Spaetgens, B. Mortality and the use of antithrombotic therapies among nursing home residents with COVID-19. *J. Am. Geriatr. Soc.* **2020**, *68*, 1647–1652. [[CrossRef](#)]
124. Brüggemann, R.A.G.; Spaetgens, B.; Gietema, H.A.; Brouns, S.H.A.; Stassen, P.M.; Magdelijns, F.J.; Rennenberg, R.J.; Henry, R.M.A.; Mulder, M.M.G.; van Bussel, B.C.T.; et al. The prevalence of pulmonary embolism in patients with COVID-19 and respiratory decline: A three-setting comparison. *Thromb Res.* **2020**, *196*, 486–490. [[CrossRef](#)]
125. Byeon, K.H.; Kim, D.W.; Kim, J.; Choi, B.Y.; Choi, B.; Cho, K.D. Factors Affecting the Survival of Early COVID-19 Patients in South Korea: An Observational Study Based on the Korean National Health Insurance Big Data. *Int. J. Infect. Dis.* **2021**, *105*, 588–594. [[CrossRef](#)]
126. Cabello, A.; Zamorro, B.; Nistal, S.; Victor, V.; Hernández, J.; Prieto-Pérez, L.; Carrillo, I.; Álvarez, B.; Fernández-Roblas, R.; Hernández-Segurado, M.; et al. COVID-19 in people living with HIV: A multicenter case-series study. *Int. J. Infect. Dis.* **2021**, *102*, 310–315. [[CrossRef](#)]
127. Cabezudo-García, P.; Ciano-Petersen, N.; Mena-Vázquez, N.; Pons-Pons, G.; Castro-Sánchez, M.V.; Serrano-Castro, P. Incidence and case fatality rate of COVID-19 in patients with active epilepsy. *Neurology* **2020**, *95*, e1417–e1425. [[CrossRef](#)]
128. Cai, G.; Gao, Y.; Zeng, S.; Yu, Y.; Liu, X.; Liu, D.; Wang, Y.; Yu, R.; Desai, A.; Li, C.; et al. Immunological alternation in COVID-19 patients with cancer and its implications on mortality. *Oncoimmunology* **2021**, *10*, 1854424. [[CrossRef](#)]
129. Cai, Q.; Chen, F.; Wang, T.; Luo, F.; Liu, X.; Wu, Q.; He, Q.; Wang, Z.; Liu, Y.; Liu, L.; et al. Obesity and COVID-19 severity in a designated hospital in Shenzhen, China. *Diabetes Care* **2020**, *43*, 1392–1398. [[CrossRef](#)]
130. Cai, S.H.; Liao, W.; Chen, S.W.; Liu, L.L.; Liu, S.Y.; Zheng, Z.D. Association between obesity and clinical prognosis in patients infected with SARS-CoV-2. *Infect. Dis. Poverty* **2020**, *9*, 80. [[CrossRef](#)]
131. Cai, Y.; Shi, S.; Yang, F.; Yi, B.; Chen, X.; Li, J.; Wen, Z. Fasting blood glucose level is a predictor of mortality in patients with COVID-19 independent of diabetes history. *Diabetes Res. Clin. Pract.* **2020**, *169*, 108437. [[CrossRef](#)]
132. Caillard, S.; Chavarot, N.; Francois, H.; Maignon, M.; Greze, C.; Kamar, N.; Gatault, P.; Thaumat, O.; Legris, T.; Frimat, L.; et al. Is COVID-19 infection more severe in kidney transplant recipients? *Am. J. Transplant.* **2021**, *21*, 1295–1303. [[CrossRef](#)] [[PubMed](#)]
133. Caliskan, T.; Saylan, B. Smoking and comorbidities are associated with COVID-19 severity and mortality in 565 patients treated in Turkey: A retrospective observational study. *Rev. Assoc. Med. Bras.* **2020**, *66*, 1679–1684. [[CrossRef](#)] [[PubMed](#)]
134. Capdevila-Reniu, A.; Pellice, M.; Prieto-González, S.; Ventosa, H.; Ladino, A.; Naval, J.; Rodríguez-Nuñez, O.; César Milisenda, J.; Moreno-Lozano, P.J.; Soriano, A.; et al. Clinical characteristics and outcome of patients aged over 80 years with COVID-19. *Medicine* **2021**, *100*, e24750. [[CrossRef](#)] [[PubMed](#)]
135. Cariou, B.; Hadjadj, S.; Wargny, M.; Pichelin, M.; Al-Salameh, A.; Allix, I.; Amadou, C.; Arnault, G.; Baudoux, F.; Bauduceau, B.; et al. Phenotypic characteristics and prognosis of inpatients with COVID-19 and diabetes: The CORONADO study. *Diabetologia* **2020**, *63*, 1500–1515. [[CrossRef](#)]
136. Carubbi, F.; Salvati, L.; Alunno, A.; Maggi, F.; Borghi, E.; Mariani, R.; Mai, F.; Paoloni, M.; Ferri, C.; Desideri, G.; et al. Ferritin is associated with the severity of lung involvement but not with worse prognosis in patients with COVID-19: Data from two Italian COVID-19 units. *Sci. Rep.* **2021**, *11*, 4863. [[CrossRef](#)]

137. Catteau, L.; Dauby, N.; Montourcy, M.; Bottieau, E.; Hautekiet, J.; Goetghebeur, E.; van Ierssel, S.; Duysburgh, E.; Van Oyen, H.; Wyndham-Thomas, C.; et al. Low-dose hydroxychloroquine therapy and mortality in hospitalised patients with COVID-19: A nationwide observational study of 8075 participants. *Int. J. Antimicrob. Agents* **2020**, *56*, 106144. [[CrossRef](#)]
138. Cattelan, A.M.; Di Meco, E.; Trevenzoli, M.; Frater, A.; Ferrari, A.; Villano, M.; Gomiero, F.; Carretta, G.; Sasset, L. Clinical characteristics and laboratory biomarkers changes in COVID-19 patients requiring or not intensive or sub-intensive care: A comparative study. *BMC Infect. Dis.* **2020**, *20*, 934. [[CrossRef](#)]
139. CDC COVID-19 Response Team. Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions among Patients with Coronavirus Disease 2019—United States, February 12–March 28, 2020. *Morb. Mortal. Wkly. Rep.* **2020**, *69*, 382–386. [[CrossRef](#)]
140. Cekerevac, I.; Turnic, T.N.; Draginic, N.; Andjic, M.; Zivkovic, V.; Simovic, S.; Susa, R.; Novkovic, L.; Mijailovic, Z.; Andjelkovic, M.; et al. Predicting severity and intrahospital mortality in COVID-19: The place and role of oxidative stress. *Oxid. Med. Cell. Longev.* **2021**, *2021*, 6615787. [[CrossRef](#)]
141. Cen, Y.; Chen, X.; Shen, Y.; Zhang, X.H.; Lei, Y.; Xu, C.; Jiang, W.R.; Xu, H.T.; Chen, Y.; Zhu, J.; et al. Risk factors for disease progression in patients with mild to moderate coronavirus disease 2019—A multi-centre observational study. *Clin. Microbiol. Infect.* **2020**, *26*, 1242–1247. [[CrossRef](#)]
142. Chand, S.; Kapoor, S.; Orsi, D.; Fazzari, M.J.; Tanner, T.G.; Umeh, G.C.; Islam, M.; Dicipinigitis, P.V. COVID-19-associated critical illness—Report of the first 300 patients admitted to intensive care units at a new york city medical center. *J. Intensive Care Med.* **2020**, *35*, 963–970. [[CrossRef](#)]
143. Chang, M.C.; Hwang, J.M.; Jeon, J.H.; Kwak, S.G.; Park, D.; Moon, J.S. Fasting plasma glucose level independently predicts the mortality of patients with coronavirus disease 2019 infection: A multicenter, retrospective cohort study. *Endocrinol. Metab.* **2020**, *35*, 595–601. [[CrossRef](#)]
144. CDC COVID-19 Response Team. Characteristics of Health Care Personnel with COVID-19—United States, February 12–April 9, 2020. *Morb. Mortal. Wkly. Rep.* **2020**, *69*, 477–481. [[CrossRef](#)]
145. Chaudhry, F.; Bulka, H.; Rathnam, A.S.; Said, O.M.; Lin, J.; Lorigan, H.; Bernitsas, E.; Rube, J.; Korzeniewski, S.J.; Memon, A.B.; et al. COVID-19 in multiple sclerosis patients and risk factors for severe infection. *J. Neurol. Sci.* **2020**, *418*, 117147. [[CrossRef](#)]
146. Chen, C.; Wang, F.; Chen, P.; Jiang, J.; Cui, G.; Zhou, N.; Moroni, F.; Moslehi, J.J.; Ammirati, E.; Wang, D.W. Mortality and pre-hospitalization use of renin-angiotensin system inhibitors in hypertensive COVID-19 patients. *J. Am. Heart Assoc.* **2020**, *9*, e017736. [[CrossRef](#)]
147. Chen, J.; Bai, H.; Liu, J.; Chen, G.; Liao, Q.; Yang, J.; Wu, P.; Wei, J.; Ma, D.; Chen, G.; et al. Distinct clinical characteristics and risk factors for mortality in female inpatients with coronavirus disease 2019 (COVID-19): A sex-stratified, large-scale cohort study in Wuhan, China. *Clin. Infect. Dis.* **2020**, *71*, 3188–3195. [[CrossRef](#)]
148. Chen, J.; Qi, T.; Liu, L.; Ling, Y.; Qian, Z.; Li, T.; Li, F.; Xu, Q.; Zhang, Y.; Xu, S.; et al. Clinical progression of patients with COVID-19 in Shanghai, China. *J. Infect.* **2020**, *80*, e1–e6. [[CrossRef](#)]
149. Chen, L.; Liu, S.; Tian, J.; Pan, H.; Liu, Y.; Hu, J.; Wang, M.; Hou, X. Disease progression patterns and risk factors associated with mortality in deceased patients with COVID-19 in Hubei province, China. *Immun. Inflamm. Dis.* **2020**, *8*, 584–594. [[CrossRef](#)]
150. Chen, Q.; Zheng, Z.; Zhang, C.; Zhang, X.; Wu, H.; Wang, J.; Wang, S.; Zheng, C. Clinical characteristics of 145 patients with corona virus disease 2019 (COVID-19) in Taizhou, Zhejiang, China. *Infection* **2020**, *48*, 543–551. [[CrossRef](#)]
151. Chen, R.; Liang, W.; Jiang, M. Risk factors of fatal outcome in hospitalized subjects with coronavirus disease 2019 from a nationwide analysis in China. *Chest* **2020**, *158*, 97–105. [[CrossRef](#)]
152. Chen, T.; Dai, Z.; Mo, P.; Li, X.; Ma, Z.; Song, S.; Chen, X.; Luo, M.; Liang, K.; Gao, S.; et al. Clinical characteristics and outcomes of older patients with coronavirus disease 2019 (COVID-19) in Wuhan, China: A single-centered, retrospective study. *J. Gerontol. A Biol. Sci. Med. Sci.* **2020**, *75*, 1788–1795. [[CrossRef](#)]
153. Chen, Y.; Yang, D.; Cheng, B.; Chen, J.; Peng, A.; Yang, C.; Liu, C.; Xiong, M.; Deng, A.; Zhang, Y.; et al. Clinical characteristics and outcomes of patients with diabetes and COVID-19 in association with glucose-lowering medication. *Diabetes Care* **2020**, *43*, 1399–1407. [[CrossRef](#)]
154. Chen, Z.; Zhang, F.; Hu, W.; Chen, Q.; Li, C.; Wu, L.; Zhang, Z.; Li, B.; Ye, Q.; Mei, J.; et al. Laboratory markers associated with COVID-19 progression in patients with or without comorbidity: A retrospective study. *J. Clin. Lab. Anal.* **2021**, *35*, e23644. [[CrossRef](#)]
155. Cheng, S.; Wu, D.; Li, J.; Zou, Y.; Wan, Y.; Shen, L.; Zhu, L.; Shi, M.; Hou, L.; Xu, T.; et al. Risk factors for the critical illness in SARS-CoV-2 infection: A multicenter retrospective cohort study. *Respir. Res.* **2020**, *21*, 277. [[CrossRef](#)] [[PubMed](#)]
156. Chilimuri, S.; Sun, H.; Alemam, A.; Mantri, N.; Shehi, E.; Tejada, J.; Yugay, A.; Nayudu, S.K. Predictors of mortality in adults admitted with COVID-19: Retrospective cohort study from New York City. *West J. Emerg. Med.* **2020**, *21*, 779–784. [[CrossRef](#)] [[PubMed](#)]
157. Choron, R.L.; Butts, C.A.; Bargoud, C.; Krumrei, N.J.; Teichman, A.L.; Schroeder, M.E.; Bover Manderski, M.T.; Cai, J.; Song, C.; Rodricks, M.B.; et al. Fever in the ICU: A predictor of mortality in mechanically ventilated COVID-19 patients. *J. Intensive Care Med.* **2021**, *36*, 484–493. [[CrossRef](#)] [[PubMed](#)]
158. Choudhuri, J.; Carter, J.; Nelson, R.; Skalina, K.; Osterbur-Badhey, M.; Johnston, A.; Goldstein, D.; Paroder, M.; Szymanski, J. SARS-CoV-2 PCR cycle threshold at hospital admission associated with patient mortality. *PLoS ONE* **2020**, *15*, e0244777. [[CrossRef](#)]

159. Ciceri, F.; Castagna, A.; Rovere-Querini, P.; De Cobelli, F.; Ruggeri, A.; Galli, L.; Conte, C.; De Lorenzo, R.; Poli, A.; Ambrosio, A.; et al. Early predictors of clinical outcomes of COVID-19 outbreak in Milan, Italy. *Clin. Immunol.* **2020**, *217*, 108509. [[CrossRef](#)]
160. Cillóniz, C.; Torres, A.; Garcia-Vidal, C.; Moreno-Garcia, E.; Amaro, R.; Soler, N.; Marcos, M.A.; Rico, V.; Gabarrús, A.; Nicolás, J.M.; et al. The value of C-reactive protein-to-lymphocyte ratio in predicting the severity of SARS-CoV-2 pneumonia. *Arch. Bronconeumol.* **2021**, *57*, 79–82. [[CrossRef](#)]
161. Çınar, T.; Hayiroğlu, M.İ.; Çiçek, V.; Kılıç, Ş.; Asal, S.Ü.; Yavuz, S.; Selçuk, M.; Yalçınkaya, E.; Keser, N.; Orhan, A.L. Is prognostic nutritional index a predictive marker for estimating all-cause in-hospital mortality in COVID-19 patients with cardiovascular risk factors? *Heart Lung.* **2021**, *50*, 307–312. [[CrossRef](#)]
162. Cizmecioglu, A.; Akay Cizmecioglu, H.; Goktepe, M.H.; Emsen, A.; Korkmaz, C.; Esenkaya Tasbent, F.; Colkesen, F.; Artac, H. Apoptosis-induced T-cell lymphopenia is related to COVID-19 severity. *J. Med. Virol.* **2021**, *93*, 2867–2874. [[CrossRef](#)]
163. Colaneri, M.; Sacchi, P.; Zuccaro, V.; Biscarini, S.; Sachs, M.; Roda, S.; Pieri, T.C.; Valsecchi, P.; Piralla, A.; Seminari, E.; et al. Clinical characteristics of coronavirus disease (COVID-19) early findings from a teaching hospital in Pavia, North Italy, 21 to 28 February 2020. *Eurosurveillance* **2020**, *25*, 2000460. [[CrossRef](#)]
164. Geriatric Medicine Research Collaborative; Covid Collaborative; Welch, C. Age and frailty are independently associated with increased COVID-19 mortality and increased care needs in survivors: Results of an international multi-centre study. *Age Ageing* **2021**, *50*, 617–630.
165. COVID-ICU Group on behalf of the REVA Network and the COVID-ICU Investigators. Clinical characteristics and day-90 outcomes of 4244 critically ill adults with COVID-19: A prospective cohort study. *Intensive Care Med.* **2021**, *47*, 60–73. [[CrossRef](#)]
166. Covino, M.; De Matteis, G.; Burzo, M.L.; Santoro, M.; Fuorlo, M.; Sabia, L.; Sandroni, C.; Gasbarrini, A.; Franceschi, F.; Gambassi, G. Angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers and prognosis of hypertensive patients hospitalised with COVID-19. *Intern. Med. J.* **2020**, *50*, 1483–1491. [[CrossRef](#)]
167. Covino, M.; De Matteis, G.; Burzo, M.L.; Russo, A.; Forte, E.; Carnicelli, A.; Piccioni, A.; Simeoni, B.; Gasbarrini, A.; Franceschi, F.; et al. Predicting in-hospital mortality in COVID-19 older patients with specifically developed scores. *J. Am. Geriatr. Soc.* **2021**, *69*, 37–43. [[CrossRef](#)]
168. Covino, M.; De Matteis, G.; Santoro, M.; Sabia, L.; Simeoni, B.; Candelli, M.; Ojetto, V.; Franceschi, F. Clinical characteristics and prognostic factors in COVID-19 patients aged ≥ 80 years. *Geriatr. Gerontol. Int.* **2020**, *20*, 704–708. [[CrossRef](#)]
169. Covino, M.; Sandroni, C.; Santoro, M.; Sabia, L.; Simeoni, B.; Bocci, M.G.; Ojetto, V.; Candelli, M.; Antonelli, M.; Gasbarrini, A.; et al. Predicting intensive care unit admission and death for COVID-19 patients in the emergency department using early warning scores. *Resuscitation* **2020**, *156*, 84–91. [[CrossRef](#)]
170. Cummings, M.J.; Baldwin, M.R.; Abrams, D.; Jacobson, S.D.; Meyer, B.J.; Balough, E.M.; Aaron, J.G.; Claassen, J.; Rabbani, L.E.; Hastie, J.; et al. Epidemiology, clinical course, and outcomes of critically ill adults with COVID-19 in New York City: A prospective cohort study. *Lancet* **2020**, *395*, 1763–1770. [[CrossRef](#)]
171. Dagher, L.; Shi, H.; Zhao, Y.; Wetherbie, A.; Johnsen, E.; Sangani, D.; Nedunchezian, S.; Brown, M.; Miller, P.; Denson, J.; et al. New-onset atrial arrhythmias associated with mortality in black and white patients hospitalized with COVID-19. *Pacing Clin. Electrophysiol.* **2021**, *44*, 856–864. [[CrossRef](#)]
172. Dai, S.-P.; Zhao, X.; Wu, J. Effects of comorbidities on the elderly patients with COVID-19: Clinical characteristics of elderly patients infected with COVID-19 from Sichuan, China. *J. Nutr. Health Aging* **2021**, *25*, 18–24. [[CrossRef](#)]
173. De Smet, D.; De Smet, K.; Herroelen, P.; Gryspeerdt, S.; Martens, G.A. Serum 25(OH)D level on hospital admission associated with COVID-19 stage and mortality. *Am. J. Clin. Pathol.* **2021**, *155*, 381–388. [[CrossRef](#)]
174. De Smet, R.; Mellaerts, B.; Vandewinckele, H.; Lybeert, P.; Frans, E.; Ombelet, S.; Lemahieu, W.; Symons, R.; Ho, E.; Frans, J.; et al. Frailty and mortality in hospitalized older adults with COVID-19: Retrospective observational study. *J. Am. Med. Dir. Assoc.* **2020**, *21*, 928. [[CrossRef](#)]
175. De Souza, C.D.F.; de Arruda Magalhães, A.J.; Lima, A.J.P.D.; Nunes, D.N.; de Fátima Machado Soares, É.; de Castro Silva, L.; Santos, L.G.; dos Santos Cardoso, V.I.; Nobre, Y.V.S.; do Carmo, R.F. Clinical manifestations and factors associated with mortality from COVID-19 in older adults: Retrospective population-based study with 9807 older Brazilian COVID-19 patients. *Geriatr. Gerontol. Int.* **2020**, *20*, 1177–1181. [[CrossRef](#)]
176. De Souza, R.; Mhatre, S.; Qayyumi, B.; Chitkara, G.; Madke, T.; Joshi, M.; Bharmal, R.; Asgaonkar, D.S.; Lakhani, P.; Gupta, S.; et al. Clinical course and outcome of patients with COVID-19 in Mumbai City: An observational study. *BMJ Open* **2021**, *11*, e042943. [[CrossRef](#)]
177. Deeb, A.; Khawaja, K.; Sakrani, N.; AlAkhras, A.; Al Mesabi, A.; Trehan, R.; Kumar, P.C.; Babiker, Z.; Nagelkerke, N.; Fru-Nsutebu, E. Impact of ethnicity and underlying comorbidity on COVID-19 in-hospital mortality: An observational study in Abu Dhabi, UAE. *Biomed. Res. Int.* **2021**, *2021*, 6695707. [[CrossRef](#)]
178. Deng, G.; Yin, M.; Chen, X.; Zeng, F. Clinical determinants for fatality of 44,672 patients with COVID-19. *Crit Care* **2020**, *24*, 179. [[CrossRef](#)]
179. Deng, Q.; Hu, B.; Zhang, Y.; Wang, H.; Zhou, X.; Hu, W.; Cheng, Y.; Yan, J.; Ping, H.; Zhou, Q. Suspected myocardial injury in patients with COVID-19: Evidence from front-line clinical observation in Wuhan, China. *Int. J. Cardiol.* **2020**, *311*, 116–121. [[CrossRef](#)]

180. Derikx, L.A.A.P.; Lantinga, M.A.; de Jong, D.J.; van Dop, W.A.; Creemers, R.H.; Römken, T.E.H.; Jansen, J.M.; Mahmmod, N.; West, R.L.; Tan, A.C.I.T.L.; et al. Clinical outcomes of covid-19 in patients with inflammatory bowel disease: A nationwide cohort study. *J. Crohn's Colitis* **2021**, *15*, 529–539. [[CrossRef](#)]
181. Di Castelnuovo, A.; Bonaccio, M.; Costanzo, S.; Gialluisi, A.; Antinori, A.; Berselli, N.; Blandi, L.; Bruno, R.; Cauda, R.; Guaraldi, G.; et al. Common cardiovascular risk factors and in-hospital mortality in 3894 patients with COVID-19: Survival analysis and machine learning-based findings from the multicentre italian CORIST study. *Nutr. Metab. Cardiovasc. Dis.* **2020**, *30*, 1899–1913. [[CrossRef](#)]
182. Di Cosimo, S.; Tagliaferri, B.; Generali, D.; Giudici, F.; Agustoni, F.; Bernardo, A.; Borgonovo, K.; Farina, G.; Luchena, G.; Luciani, A.; et al. Baseline characteristics and outcomes of cancer patients infected with SARS-CoV-2 in the Lombardy region, Italy (AIOM-L CORONA): A multicenter, observational, ambispective, cohort study. *Cancers* **2021**, *13*, 1324. [[CrossRef](#)]
183. Du, H.; Pan, X.; Liu, N.; Chen, J.; Chen, X.; Werring, D.J.; Ambler, G.; Li, X.; Chen, R.; Zhang, Y.; et al. The effect of vascular risk factor burden on the severity of COVID-19 illness, a retrospective cohort study. *Respir. Res.* **2020**, *21*, 241. [[CrossRef](#)]
184. Du, R.H.; Liang, L.R.; Yang, C.Q.; Wang, W.; Cao, T.Z.; Li, M.; Guo, G.Y.; Du, J.; Zheng, C.L.; Zhu, Q.; et al. Predictors of Mortality for Patients with COVID-19 Pneumonia Caused by SARS-CoV-2: A Prospective Cohort Study. *Eur. Respir. J.* **2020**, *55*, 2000524. [[CrossRef](#)] [[PubMed](#)]
185. Du, R.H.; Liu, L.M.; Yin, W.; Wang, W.; Guan, L.L.; Yuan, M.L.; Li, Y.L.; Hu, Y.; Li, X.Y.; Sun, B.; et al. Hospitalization and Critical Care of 109 Decedents with COVID-19 Pneumonia in Wuhan, China. *Ann. Am. Thorac. Soc.* **2020**, *17*, 839–846. [[CrossRef](#)] [[PubMed](#)]
186. Duan, J.; Wang, X.; Chi, J.; Chen, H.; Bai, L.; Hu, Q.; Han, X.; Hu, W.; Zhu, L.; Wang, X.; et al. Correlation between the variables collected at admission and progression to severe cases during hospitalization among patients with COVID-19 in Chongqing. *J. Med. Virol.* **2020**, *92*, 2616–2622. [[CrossRef](#)] [[PubMed](#)]
187. Duarte, M.B.O.; Leal, F.; Argenton, J.L.P.; Carvalheira, J.B.C. Outcomes of COVID-19 patients under cytotoxic cancer chemotherapy in Brazil. *Cancers* **2020**, *12*, 3490. [[CrossRef](#)] [[PubMed](#)]
188. Duclos, G.; Bazalguette, F.; Allaouchiche, B.; Mohammedi, N.; Lopez, A.; Gazon, M.; Besch, G.; Bouvet, L.; Muller, L.; Mathon, G.; et al. Can thoracic ultrasound on admission predict the outcome of critically ill patients with SARS-CoV-2? A French multi-centric ancillary retrospective study. *Adv. Ther.* **2021**, *38*, 2599–2612. [[CrossRef](#)]
189. Dudley, J.P.; Lee, N.T. Disparities in Age-Specific Morbidity and Mortality from SARS-CoV-2 in China and the Republic of Korea. *Clin. Infect. Dis.* **2020**, *71*, 863–865. [[CrossRef](#)]
190. Elamari, S.; Motaib, I.; Zbiri, S.; Elaidou, K.; Chadli, A.; Elkettani, C. Characteristics and outcomes of diabetic patients infected by the SARS-CoV-2. *Pan Afr. Med. J.* **2020**, *37*, 32. [[CrossRef](#)]
191. Elhadi, M.; Alsoufi, A.; Abusalama, A.; Alkaseek, A.; Abdeewi, S.; Yahya, M.; Mohammed, A.; Abdelkadir, M.; Huwaysh, M.; Amkhatirah, E.; et al. Epidemiology, outcomes, and utilization of intensive care unit resources for critically ill COVID-19 patients in Libya: A prospective multi-center cohort study. *PLoS ONE* **2021**, *16*, e0251085. [[CrossRef](#)]
192. Escobar, A.L.; Rodriguez, T.D.M.; Monteiro, J.C. Lethality and characteristics of deaths due to COVID-19 in Rondônia: An observational study. *Epidemiol. Serviços Saúde* **2020**, *30*, e2020763. [[CrossRef](#)]
193. Escosteguy, C.C.; Eleuterio, T.A.; Pereira, A.G.L.; Marques, M.R.V.E.; Brandão, A.D.; Batista, J.P.M. COVID-19: A cross-sectional study of suspected cases admitted to a federal hospital in Rio de Janeiro, Brazil, and factors associated with hospital death. *Epidemiol. Serviços Saúde* **2020**, *30*, e2020750. [[CrossRef](#)]
194. Etienne, N.; Karmochkine, M.; Slama, L.; Pavie, J.; Batisse, D.; Usubillaga, R.; Letembet, V.A.; Brazille, P.; Canouï, E.; Slama, D.; et al. HIV infection and COVID-19: Risk factors for severe disease. *AIDS* **2020**, *34*, 1771–1774. [[CrossRef](#)]
195. Fadini, G.P.; Morieri, M.L.; Boscaro, F.; Fioretto, P.; Maran, A.; Busetto, L.; Bonora, B.M.; Selmin, E.; Arcidiacono, G.; Pinelli, S.; et al. Newly-diagnosed diabetes and admission hyperglycemia predict COVID-19 severity by aggravating respiratory deterioration. *Diabetes Res. Clin. Pract.* **2020**, *168*, 108374. [[CrossRef](#)]
196. Falcone, M.; Tiseo, G.; Barbieri, G.; Galfo, V.; Russo, A.; Viridis, A.; Forfori, F.; Corradi, F.; Guarracino, F.; Carrozzi, L. Role of low-molecular-weight heparin in hospitalized patients with severe acute respiratory syndrome coronavirus 2 pneumonia: A prospective observational study. *Open Forum Infect. Dis.* **2020**, *7*, ofaa563. [[CrossRef](#)]
197. Favà, A.; Cucchiari, D.; Montero, N.; Toapanta, N.; Centellas, F.J.; Vila-Santandreu, A.; Coloma, A.; Meneghini, M.; Manonelles, A.; Sellarés, J.; et al. Clinical characteristics and risk factors for severe COVID-19 in hospitalized kidney transplant recipients: A multicentric cohort study. *Am. J. Transplant.* **2020**, *20*, 3030–3041. [[CrossRef](#)]
198. Feng, Y.; Ling, Y.; Bai, T.; Xie, Y.; Huang, J.; Li, J.; Xiong, W.; Yang, D.; Chen, R.; Lu, F.; et al. COVID-19 with Different Severity: A Multi-center Study of Clinical Features. *Am. J. Respir. Crit. Care Med.* **2020**, *201*, 1380–1388. [[CrossRef](#)]
199. Ferguson, J.; Rosser, J.L.; Quintero, O.; Scott, J.; Subramanian, A.; Gumma, M.; Rogers, A.; Kappagoda, S. Characteristics and outcomes of coronavirus disease patients under nonsurge conditions, Northern California, USA, March–April 2020. *Emerg. Infect. Dis.* **2020**, *26*, 1679–1685. [[CrossRef](#)]
200. Fernandes, D.M.; Oliveira, C.R.; Guerguis, S.; Eisenberg, R.; Choi, J.; Kim, M.; Abdelhemid, A.; Agha, R.; Agarwal, S.; Aschner, J.L.; et al. Severe acute respiratory syndrome coronavirus 2 clinical syndromes and predictors of disease severity in hospitalized children and youth. *J. Pediatr.* **2021**, *230*, 23–31.e10. [[CrossRef](#)]

201. Ferrando, C.; Mellado-Artigas, R.; Gea, A.; Arruti, E.; Aldecoa, C.; Bordell, A.; Adalia, R.; Zattera, L.; Ramasco, F.; Monedero, P.; et al. Patient characteristics, clinical course and factors associated to ICU mortality in critically ill patients infected with SARS-CoV-2 in Spain: A prospective, cohort, multicentre study. *Rev. Esp. Anesthesiol. Reanim.* **2020**, *67*, 425–437. [[CrossRef](#)]
202. Ferrando-Vivas, P.; Doidge, J.; Thomas, K.; Gould, D.W.; Mouncey, P.; Shankar-Hari, M.; Young, J.D.; Rowan, K.M.; Harrison, D.A.; ICNARC COVID-19 Team 2021. Prognostic factors for 30-day mortality in critically ill patients with coronavirus disease 2019: An observational cohort study. *Crit. Care Med.* **2021**, *49*, 102–111. [[CrossRef](#)]
203. Ferrari, B.L.; Ferreira, C.G.; Menezes, M.; De Marchi, P.; Canedo, J.; Melo, A.C.; Jácome, A.A.; Reinert, T.; Paes, R.D.; Sodré, B.; et al. Determinants of COVID-19 mortality in patients with cancer from a community oncology practice in Brazil. *JCO Glob. Oncol.* **2021**, *7*, 46–55. [[CrossRef](#)]
204. Fox, T.; Ruddiman, K.; Lo, K.B.; Peterson, E.; DeJoy, R., 3rd; Salacup, G.; Pelayo, J.; Bhargav, R.; Gul, F.; Albano, J.; et al. The relationship between diabetes and clinical outcomes in COVID-19: A single-center retrospective analysis. *Acta Diabetol.* **2021**, *58*, 33–38. [[CrossRef](#)]
205. Foy, B.H.; Carlson, J.C.T.; Reinertsen, E.; Padros, I.; Valls, R.; Pallares Lopez, R.; Palanques-Tost, E.; Mow, C.; Westover, M.B.; Aguirre, A.D.; et al. Association of red blood cell distribution width with mortality risk in hospitalized adults with SARS-CoV-2 infection. *JAMA Netw. Open.* **2020**, *3*, e2022058. [[CrossRef](#)]
206. Freitas Nuñez, D.D.; Leon, L.; Mucientes, A.; Rodríguez-Rodríguez, L.; Urgelles, J.F.; Madrid García, A.; Colomer, J.I.; Jover, J.A.; Fernandez-Gutierrez, B.; Abasolo, L.; et al. Risk factors for hospital admissions related to COVID-19 in patients with autoimmune inflammatory rheumatic diseases. *Ann. Rheum. Dis.* **2020**, *79*, 1393–1399. [[CrossRef](#)]
207. Frontera, J.A.; Valdes, E.; Huang, J.; Lewis, A.; Lord, A.S.; Zhou, T.; Kahn, D.E.; Melmed, K.; Czeisler, B.M.; Yaghi, S.; et al. Prevalence and impact of hyponatremia in patients with coronavirus disease 2019 in New York City. *Crit. Care Med.* **2020**, *48*, e1211–e1217. [[CrossRef](#)]
208. Fu, J.; Kong, J.; Wang, W.; Wu, M.; Yao, L.; Wang, Z.; Jin, J.; Wu, D.; Yu, X. The clinical implication of dynamic neutrophil to lymphocyte ratio and D-dimer in COVID-19: A retrospective study in Suzhou, China. *Thromb. Res.* **2020**, *192*, 3–8. [[CrossRef](#)]
209. Galiero, R.; Pafundi, P.C.; Simeon, V.; Rinaldi, L.; Perrella, A.; Vetrano, E.; Caturano, A.; Alfano, M.; Beccia, D.; Nevola, R.; et al. Impact of chronic liver disease upon admission on COVID-19 in-hospital mortality: Findings from COVOCA study. *PLoS ONE* **2020**, *15*, e0243700. [[CrossRef](#)]
210. Gao, C.; Cai, Y.; Zhang, K.; Zhou, L.; Zhang, Y.; Zhang, X.; Li, Q.; Li, W.; Yang, S.; Zhao, X.; et al. Association of hypertension and antihypertensive treatment with COVID-19 mortality: A retrospective observational study. *Eur. Heart J.* **2020**, *41*, 2058–2066. [[CrossRef](#)]
211. Gao, J.; Huang, X.; Gu, H.; Lou, L.; Xu, Z. Predictive criteria of severe cases in COVID-19 patients of early stage: A retrospective observational study. *J. Clin. Lab Anal.* **2020**, *34*, e23562. [[CrossRef](#)]
212. Genet, B.; Vidal, J.S.; Cohen, A.; Bouilly, C.; Beunardeau, M.; Marine Harlé, L.; Gonçalves, A.; Boudali, Y.; Hernandezena, I.; Bailly, H.; et al. COVID-19 in-hospital mortality and use of renin-angiotensin system blockers in geriatrics patients. *J. Am. Med. Dir. Assoc.* **2020**, *21*, 1539–1545. [[CrossRef](#)]
213. Ghaffari, M.; Ansari, H.; Beladimoghdam, N.; Aghamiri, S.H.; Haghghi, M.; Nabavi, M.; Mansouri, B.; Mehrpour, M.; Assarzagdegan, F.; Hesami, O.; et al. Neurological features and outcome in COVID-19: Dementia can predict severe disease. *J. Neurovirol.* **2021**, *27*, 86–93. [[CrossRef](#)]
214. Giannoglou, D.; Meimeti, E.; Provatooulou, X.; Stathopoulos, K.; Roukas, I.; Galanis, P. Predictors of mortality in hospitalized COVID-19 patients in Athens, Greece. *Int. J. Caring Sci.* **2020**, *13*, 1689–1698.
215. Goicoechea, M.; Sánchez Cámara, L.A.; Macías, N.; Muñoz de Morales, A.; Rojas, Á.; Bascuñana, A.; Arroyo, D.; Vega, A.; Abad, S.; Verde, E.; et al. COVID-19: Clinical course and outcomes of 36 hemodialysis patients in Spain. *Kidney Int.* **2020**, *98*, 27–34. [[CrossRef](#)] [[PubMed](#)]
216. Gomez, J.M.D.; Du-Fay-de-Lavallaz, J.M.; Fugar, S.; Sarau, A.; Simmons, J.A.; Clark, B.; Sanghani, R.M.; Aggarwal, N.T.; Williams, K.A.; Doukky, R.; et al. Sex differences in COVID-19 hospitalization and mortality. *J. Women's Health* **2021**, *30*, 646–653. [[CrossRef](#)] [[PubMed](#)]
217. Gong, J.; Ou, J.; Qiu, X.; Jie, Y.; Chen, Y.; Yuan, L.; Cao, J.; Tan, M.; Xu, W.; Zheng, F.; et al. A Tool to Early Predict Severe Corona Virus Disease 2019 (COVID-19): A Multicenter Study using the Risk Nomogram in Wuhan and Guangdong, China. *Clin. Infect. Dis.* **2020**, *71*, 833–840. [[CrossRef](#)] [[PubMed](#)]
218. González-Gancedo, J.; Morales-Cané, I.; Rodríguez-Muñoz, P.M.; Hidalgo-Lopezosa, P.; Del Rocío Valverde-León, M.; Fernández-Martínez, M.E.; Fabbian, F.; Rodríguez-Borrego, M.A.; López-Soto, P.J. Mortality and critical conditions in COVID-19 patients at private hospitals: Weekend effect? *Eur. Rev. Med. Pharmacol. Sci.* **2021**, *25*, 3377–3385. [[PubMed](#)]
219. Goodall, J.W.; Reed, T.A.N.; Ardissino, M.; Bassett, P.; Whittington, A.M.; Cohen, D.L.; Vaid, N. Risk factors for severe disease in patients admitted with COVID-19 to a hospital in London, England: A retrospective cohort study. *Epidemiol. Infect.* **2020**, *148*, e251. [[CrossRef](#)]
220. Grasselli, G.; Greco, M.; Zanella, A.; Albano, G.; Antonelli, M.; Bellani, G.; Bonanomi, E.; Cabrini, L.; Carlesso, E.; Castelli, G.; et al. Risk factors associated with mortality among patients with COVID-19 in intensive care units in Lombardy, Italy. *JAMA Intern. Med.* **2020**, *180*, 1345–1355. [[CrossRef](#)]

221. Grasselli, G.; Zangrillo, A.; Zanella, A.; Antonelli, M.; Cabrini, L.; Castelli, A.; Cereda, D.; Coluccello, A.; Foti, G.; Fumagalli, R.; et al. Baseline Characteristics and Outcomes of 1591 Patients Infected With SARS-CoV-2 Admitted to ICUs of the Lombardy Region, Italy. *JAMA* **2020**, *323*, 1574–1581. [[CrossRef](#)]
222. Gu, T.; Mack, J.A.; Salvatore, M.; Sankar, S.P.; Valley, T.S.; Singh, K.; Nallamothu, B.K.; Kheterpal, S.; Lisabeth, L.; Fritsche, L.G.; et al. Characteristics Associated with Racial/Ethnic Disparities in COVID-19 Outcomes in an Academic Health Care System. *JAMA Netw. Open* **2020**, *3*, e2025197. [[CrossRef](#)]
223. Guan, W.J.; Liang, W.H.; Zhao, Y.; Liang, H.R.; Chen, Z.S.; Li, Y.M.; Liu, X.Q.; Chen, R.C.; Tang, C.L.; Wang, T.; et al. Comorbidity and its impact on 1590 patients with Covid-19 in China: A Nationwide Analysis. *Eur. Respir. J.* **2020**, *55*, 2000547. [[CrossRef](#)]
224. Guan, W.J.; Ni, Z.Y.; Hu, Y.; Liang, W.H.; Ou, C.Q.; He, J.X.; Liu, L.; Shan, H.; Lei, C.L.; Hui, D.S.C.; et al. Clinical Characteristics of Coronavirus Disease 2019 in China. *N. Engl. J. Med.* **2020**, *382*, 1708–1720. [[CrossRef](#)]
225. Guarneri, V.; Bassan, F.; Zagonel, V.; Milella, M.; Zaninelli, M.; Cattelan, A.M.; Vianello, A.; Gori, S.; Aprile, G.; Azzarello, G.; et al. Epidemiology and clinical course of severe acute respiratory syndrome coronavirus 2 infection in cancer patients in the veneto oncology network: The rete oncologica veneta COVID-19 study. *Eur. J. Cancer* **2021**, *147*, 120–127. [[CrossRef](#)]
226. Guo, W.; Li, M.; Dong, Y.; Zhou, H.; Zhang, Z.; Tian, C.; Qin, R.; Wang, H.; Shen, Y.; Du, K.; et al. Diabetes is a risk factor for the progression and prognosis of COVID-19. *Diabetes Metab. Res. Rev.* **2020**, *36*, e3319. [[CrossRef](#)]
227. Guo, Y.; Liu, X.; Deng, M.; Liu, P.; Li, F.; Xie, N.; Pang, Y.; Zhang, X.; Luo, W.; Peng, Y.; et al. Epidemiology of COVID-19 in older persons, wuhan, china. *Age Ageing* **2020**, *49*, 706–712. [[CrossRef](#)]
228. Gupta, S.; Hayek, S.S.; Wang, W.; Chan, L.; Mathews, K.S.; Melamed, M.L.; Brenner, S.K.; Leonberg-Yoo, A.; Schenck, E.J.; Radbel, J.; et al. Factors associated with death in critically ill patients with coronavirus disease 2019 in the US. *JAMA Intern. Med.* **2020**, *180*, 1436–1447. [[CrossRef](#)]
229. Haase, N.; Plovsing, R.; Christensen, S.; Poulsen, L.M.; Brøchner, A.C.; Rasmussen, B.S.; Helleberg, M.; Jensen, J.U.S.; Andersen, L.P.K.; Siegel, H.; et al. Characteristics, interventions, and longer term outcomes of COVID-19 ICU patients in Denmark-A nationwide, observational study. *Acta Anaesthesiol. Scand.* **2021**, *65*, 68–75. [[CrossRef](#)]
230. Halvatsiotis, P.; Kotanidou, A.; Tzannis, K.; Jahaj, E.; Magira, E.; Theodorakopoulou, M.; Konstandopoulou, G.; Gkeka, E.; Pourzitaki, C.; Kapravelos, N.; et al. Demographic and clinical features of critically ill patients with COVID-19 in Greece: The burden of diabetes and obesity. *Diabetes Res. Clin. Pract.* **2020**, *166*, 108331. [[CrossRef](#)]
231. Han, H.; Xie, L.; Liu, R.; Yang, J.; Liu, F.; Wu, K.; Chen, L.; Hou, W.; Feng, Y.; Zhu, C. Analysis of heart injury laboratory parameters in 273 COVID-19 patients in one hospital in Wuhan, China. *J. Med. Virol.* **2020**, *92*, 819–823. [[CrossRef](#)]
232. Hashemi, N.; Viveiros, K.; Redd, W.D.; Zhou, J.C.; McCarty, T.R.; Bazarbashi, A.N.; Hathorn, K.E.; Wong, D.; Njie, C.; Shen, L.; et al. Impact of chronic liver disease on outcomes of hospitalized patients with COVID-19: A multicentre United States experience. *Liver Int.* **2020**, *40*, 2515–2521. [[CrossRef](#)]
233. Hatami, H.; Soleimantabar, H.; Ghasemian, M.; Delbari, N.; Aryannezhad, S. Predictors of Intensive Care Unit Admission among Hospitalized COVID-19 Patients in a Large University Hospital in Tehran, Iran. *J. Res. Health Sci.* **2021**, *21*, 1–10. [[CrossRef](#)]
234. He, F.; Shang, X.; Fu, T.; Lin, J.; Li, F.; Qiu, Y.; Wu, C.; Wang, Z. Risk of severe coronavirus disease in imported and secondary cases in Zhejiang province, China. *J. Public Health* **2021**, *43*, 35–41. [[CrossRef](#)]
235. Hendra, H.; Vajgel, G.; Antonelou, M.; Neradova, A.; Manson, B.; Clark, S.G.; Kostakis, I.D.; Caplin, B.; Salama, A.D. Identifying prognostic risk factors for poor outcome following COVID-19 disease among in-centre haemodialysis patients: Role of inflammation and frailty. *J. Nephrol.* **2021**, *34*, 315–323. [[CrossRef](#)]
236. Hoffmann, C.; Casado, J.L.; Härter, G.; Vizcarra, P.; Moreno, A.; Cattaneo, D.; Meraviglia, P.; Spinner, C.D.; Schabaz, F.; Grunwald, S.; et al. Immune deficiency is a risk factor for severe COVID-19 in people living with HIV. *HIV Med.* **2021**, *22*, 372–378. [[CrossRef](#)]
237. Hu, F.; Guo, Y.; Lin, J.; Zeng, Y.; Wang, J.; Li, M.; Cong, L. Association of serum uric acid levels with COVID-19 severity. *BMC Endocr. Disord.* **2021**, *21*, 97. [[CrossRef](#)]
238. Hu, H.; Yao, N.; Qiu, Y. Comparing rapid scoring systems in mortality prediction of critical ill patients with novel coronavirus disease. *Acad. Emerg. Med.* **2020**, *27*, 461–468. [[CrossRef](#)]
239. Hu, J.; Zhou, J.; Dong, F.; Tan, J.; Wang, S.; Li, Z.; Zhang, X.; Zhang, H.; Ming, J.; Huang, T. Combination of serum lactate dehydrogenase and sex is predictive of severe disease in patients with COVID-19. *Medicine* **2020**, *99*, e22774. [[CrossRef](#)]
240. Hu, L.; Chen, S.; Fu, Y.; Gao, Z.; Long, H.; Ren, H.W.; Zuo, Y.; Wang, J.; Li, H.; Xu, Q.B.; et al. Risk Factors Associated with Clinical Outcomes in 323 COVID-19 Hospitalized Patients in Wuhan, China. *Clin. Infect. Dis.* **2020**, *71*, 2089–2098. [[CrossRef](#)]
241. Hu, X.; Deng, H.; Wang, Y.; Chen, L.; Gu, X.; Wang, X. Predictive value of the prognostic nutritional index for the severity of coronavirus disease 2019. *Nutrition* **2021**, *84*, 111123. [[CrossRef](#)]
242. Huang, R.; Zhu, L.; Xue, L.; Liu, L.; Yan, X.; Wang, J.; Zhang, B.; Xu, T.; Ji, F.; Zhao, Y.; et al. Clinical findings of patients with coronavirus disease 2019 in jiangsu province, china: A retrospective, multi-center study. *PLoS Negl. Trop. Dis.* **2020**, *14*, e0008280. [[CrossRef](#)]
243. Huang, S.; Wang, J.; Liu, F.; Liu, J.; Cao, G.; Yang, C.; Liu, W.; Tu, C.; Zhu, M.; Xiong, B. COVID-19 patients with hypertension have more severe disease: A multicenter retrospective observational study. *Hypertens. Res.* **2020**, *43*, 824–831. [[CrossRef](#)]
244. Huang, Y.; Chen, Z.; Wang, Y.; Han, L.; Qin, K.; Huang, W.; Huang, Y.; Wang, H.; Shen, P.; Ba, X.; et al. Clinical characteristics of 17 patients with COVID-19 and systemic autoimmune diseases: A retrospective study. *Ann. Rheum. Dis.* **2020**, *79*, 1163–1169. [[CrossRef](#)]

245. Huang, Y.; Guo, H.; Zhou, Y.; Guo, J.; Wang, T.; Zhao, X.; Li, H.; Sun, Y.; Bian, X.; Fang, C. The associations between fasting plasma glucose levels and mortality of COVID-19 in patients without diabetes. *Diabetes Res. Clin. Pract.* **2020**, *169*, 108448. [[CrossRef](#)] [[PubMed](#)]
246. Hussein, M.H.; Toraih, E.A.; Attia, A.S.; Burley, N.; Zhang, A.D.; Roos, J.; Houghton, A.; Aniemeka, N.; Omar, M.; Aboueisha, M.; et al. Asthma in COVID-19 patients: An extra chain fitting around the neck? *Respir. Med.* **2020**, *175*, 106205. [[CrossRef](#)] [[PubMed](#)]
247. Hwang, J.M.; Kim, J.H.; Park, J.S.; Chang, M.C.; Park, D. Neurological diseases as mortality predictive factors for patients with COVID-19: A retrospective cohort study. *Neurol. Sci.* **2020**, *41*, 2317–2324. [[CrossRef](#)] [[PubMed](#)]
248. Iaccarino, G.; Grassi, G.; Borghi, C.; Ferri, C.; Salvetti, M.; Volpe, M. Age and multimorbidity predict death among COVID-19 patients: Results of the SARS-RAS study of the Italian Society of Hypertension. *Hypertension* **2020**, *76*, 366–372. [[CrossRef](#)] [[PubMed](#)]
249. Iaccarino, G.; Grassi, G.; Borghi, C.; Carugo, S.; Fallo, F.; Ferri, C.; Giannattasio, C.; Grassi, D.; Letizia, C.; Mancusi, C.; et al. Gender differences in predictors of intensive care units admission among COVID-19 patients: The results of the SARS-RAS study of the Italian Society of Hypertension. *PLoS ONE* **2020**, *15*, e0237297. [[CrossRef](#)] [[PubMed](#)]
250. Imam, Z.; Odish, F.; Gill, I.; O'Connor, D.; Armstrong, J.; Vanood, A.; Ibironke, O.; Hanna, A.; Ranski, A.; Halalau, A. Older age and comorbidity are independent mortality predictors in a large cohort of 1305 COVID-19 patients in Michigan, United States. *J. Intern. Med.* **2020**, *288*, 469–476. [[CrossRef](#)]
251. Incerti, D.; Rizzo, S.; Li, X.; Yau, V.; Keebler, D.; Chia, J.; Tsai, L. Prognostic model to identify and quantify risk factors for mortality among hospitalised patients with COVID-19 in the USA. *BMJ Open* **2021**, *11*, e047121. [[CrossRef](#)]
252. Inciardi, R.M.; Adamo, M.; Lupi, L.; Cani, D.S.; Pasquale, M.D.; Tomasoni, D.; Italia, L.; Zaccone, G.; Tedino, C.; Fabbriatore, D.; et al. Characteristics and outcomes of patients hospitalized for COVID-19 and cardiac disease in Northern Italy. *Eur. Heart J.* **2020**, *41*, 1821–1829. [[CrossRef](#)]
253. Islam, M.Z.; Riaz, B.K.; Islam, A.N.M.S.; Khanam, F.; Akhter, J.; Choudhury, R.; Farhana, N.; Jahan, N.A.; Uddin, M.J.; Efa, S.S. Risk factors associated with morbidity and mortality outcomes of COVID-19 patients on the 28th day of the disease course: A retrospective cohort study in Bangladesh. *Epidemiol. Infect.* **2020**, *148*, e263. [[CrossRef](#)]
254. Jain, P.; Sinha, N.; Prasad, M.; Padole, V. Clinical and laboratory profile of COVID-19 patients admitted at a tertiary care center in New Delhi and assessment of factors predicting disease severity. *Indian J. Med. Spec.* **2021**, *12*, 59–63. [[CrossRef](#)]
255. Jang, J.G.; Hur, J.; Choi, E.Y.; Hong, K.S.; Lee, W.; Ahn, J.H. Prognostic factors for severe coronavirus disease 2019 in Daegu, Korea. *J. Korean Med. Sci.* **2020**, *35*, e209. [[CrossRef](#)]
256. Jegede, O.; Raman, A.A.; Tiongson, B.; Garlapati, P.R.; Hershberger, J.; Gayam, V. Clinical characteristics, hospital course, and outcomes among COVID-19 positive patients with mental illness in a community hospital in New York City. *Int. J. Ment. Health* **2021**, *50*, 4–15. [[CrossRef](#)]
257. Ji, D.; Zhang, D.; Xu, J.; Chen, Z.; Yang, T.; Zhao, P.; Chen, G.; Cheng, G.; Wang, Y.; Bi, J.; et al. Prediction for Progression Risk in Patients with COVID-19 Pneumonia: The CALL Score. *Clin. Infect. Dis.* **2020**, *71*, 1393–1399. [[CrossRef](#)]
258. Ji, X.Y.; Ma, Y.; Shi, N.N.; Liang, N.; Chen, R.B.; Liu, S.H.; Shi, S.; Wu, G.H.; Li, J.K.; Chen, H.; et al. Clinical characteristics and treatment outcome of COVID-19 patients with stroke in China: A multicenter retrospective study. *Phytomedicine* **2021**, *81*, 153433. [[CrossRef](#)]
259. Jiang, N.; Liu, Y.N.; Bao, J.; Li, R.; Ni, W.T.; Tan, X.Y.; Xu, Y.; Peng, L.P.; Wang, X.R.; Zeng, Y.M.; et al. Clinical features and risk factors associated with severe COVID-19 patients in China. *Chin. Med. J.* **2021**, *134*, 944–953. [[CrossRef](#)]
260. Jiang, Y.; Abudurexiti, S.; An, M.M.; Cao, D.; Wei, J.; Gong, P. Risk factors associated with 28-day all-cause mortality in older severe COVID-19 patients in Wuhan, China: A retrospective observational study. *Sci. Rep.* **2020**, *10*, 22369. [[CrossRef](#)]
261. Jimeno, S.; Ventura, P.S.; Castellano, J.M.; Garcia-Adasme, S.I.; Miranda, M.; Touza, P.; Lllana, I.; López-Escobar, A. Prognostic implications of neutrophil-lymphocyte ratio in COVID-19. *Eur. J. Clin. Investig.* **2021**, *51*, e13404. [[CrossRef](#)]
262. Jørgensen, M.J.; Holter, J.C.; Christensen, E.E.; Schjalm, C.; Tonby, K.; Pischke, S.E.; Jenum, S.; Skeie, L.G.; Nur, S.; Lind, A.; et al. Increased interleukin-6 and macrophage chemoattractant protein-1 are associated with respiratory failure in COVID-19. *Sci. Rep.* **2020**, *10*, 21697. [[CrossRef](#)]
263. Jose, J.; Al-Dorzi, H.M.; Al-Omari, A.; Al-Hameed, F.; Sadat, M.; Qasim, E.A.; Alraddadi, B.; Harthy, A.A.; Mekhlafi, G.A.A.; Almotairi, A.; et al. Critically ill patients with diabetes and middle east respiratory syndrome: A multi-center observational study. *BMC Infect. Dis.* **2021**, *21*, 84. [[CrossRef](#)]
264. Jung, C.; Bruno, R.R.; Wernly, B.; Joannidis, M.; Oeyen, S.; Zafeiridis, T.; Marsh, B.; Andersen, F.H.; Moreno, R.; Fernandes, A.M.; et al. Inhibitors of the renin-angiotensin-aldosterone system and COVID-19 in critically ill elderly patients. *Eur. Heart J. Cardiovasc. Pharmacother.* **2021**, *7*, 76–77. [[CrossRef](#)]
265. Kaeuffer, C.; Hyaric, C.L.; Fabacher, T.; Mootien, J.; Dervieux, B.; Ruch, Y.; Hugerot, A.; Zhu, Y.J.; Pointurier, V.; Clere-Jehl, R.; et al. Clinical characteristics and risk factors associated with severe COVID-19: Prospective analysis of 1045 hospitalised cases in North-Eastern France, March 2020. *Eurosurveillance* **2020**, *25*, 2000895. [[CrossRef](#)]
266. Kalligeros, M.; Shehadeh, F.; Mylona, E.K.; Benitez, G.; Beckwith, C.G.; Chan, P.A.; Mylonakis, E. Association of Obesity with Disease Severity among Patients with COVID-19. *Obesity* **2020**, *28*, 1200–1204. [[CrossRef](#)]
267. Karahan, S.; Katkat, F. Impact of serum 25(OH) vitamin D level on mortality in patients with COVID-19 in Turkey. *J. Nutr. Health Aging* **2021**, *25*, 189–196. [[CrossRef](#)]

268. Karimi, M.; Haghpanah, S.; Zarei, T.; Azarkeivan, A.; Shirkavand, A.; Matin, S.; Tavakoli, M.A.; Zahedi, Z.; Sanctis, V.D. Prevalence and severity of coronavirus disease 2019 (COVID-19) in transfusion dependent and non-transfusion dependent β -thalassemia patients and effects of associated comorbidities: An Iranian nationwide study. *Acta Bio Med. Atenei Parm.* **2020**, *91*, e2020007.
269. Karlsson, L.K.; Jakobsen, L.H.; Hollensberg, L.; Ryg, J.; Midttun, M.; Frederiksen, H.; Glenthøj, A.; Kodahl, A.R.; Secher-Johnsen, J.; Nielsen, L.K.; et al. Clinical presentation and mortality in hospitalized patients aged 80+ years with COVID-19—A retrospective cohort study. *Arch. Gerontol. Geriatr.* **2021**, *94*, 104335. [[CrossRef](#)]
270. Kaya, H.; Kaji, M.; Usuda, D. Soluble interleukin-2 receptor levels on admission associated with mortality in coronavirus disease 2019. *Int. J. Infect. Dis.* **2021**, *105*, 522–524. [[CrossRef](#)] [[PubMed](#)]
271. Khan, A.; Althunayyan, S.; Alsofayan, Y.; Alotaibi, R.; Mubarak, A.; Arafat, M.; Assiri, A.; Jokhdar, H. Risk factors associated with worse outcomes in COVID-19: A retrospective study in Saudi Arabia. *East Mediterr. Health J.* **2020**, *26*, 1371–1380. [[CrossRef](#)] [[PubMed](#)]
272. Kim, D.W.; Byeon, K.H.; Kim, J.; Cho, K.D.; Lee, N. The correlation of comorbidities on the mortality in patients with COVID-19: An observational study based on the Korean national health insurance big data. *J. Korean Med. Sci.* **2020**, *35*, e243. [[CrossRef](#)] [[PubMed](#)]
273. Kim, E.J.; Lee, Y.H.; Park, J.S.; Lee, J.; Lee, S.Y.; Kim, Y.; Kwon, Y.S.; Jang, J.G.; Shin, K.C.; Kim, K.C.; et al. Clinical features and prognostic factors of critically ill patients with COVID-19 in Daegu, South Korea: A multi-center retrospective study. *Medicine* **2021**, *100*, e24437. [[CrossRef](#)] [[PubMed](#)]
274. Kim, S.W.; Kim, S.M.; Kim, Y.K.; Kim, J.Y.; Lee, Y.M.; Kim, B.O.; Hwangbo, S.; Park, T. Clinical characteristics and outcomes of COVID-19 cohort patients in Daegu metropolitan city outbreak in 2020. *J. Korean Med. Sci.* **2021**, *36*, e12. [[CrossRef](#)] [[PubMed](#)]
275. Krause, M.; Douin, D.J.; Kim, K.K.; Fernandez-Bustamante, A.; Bartels, K. Characteristics and outcomes of mechanically ventilated COVID-19 patients—an observational cohort study. *J. Intensive Care Med.* **2021**, *36*, 271–276. [[CrossRef](#)]
276. Krishnamoorthy, G.; Arsene, C.; Jena, N.; Mogulla, S.M.; Coakley, R.; Khine, J.; Khosrodad, N.; Klein, A.; Sule, A.A. Racial disparities in COVID-19 hospitalizations do not lead to disparities in outcomes. *Public Health* **2021**, *190*, 93–98. [[CrossRef](#)]
277. Krishnan, S.; Patel, K.; Desai, R.; Sule, A.; Paik, P.; Miller, A.; Barclay, A.; Cassella, A.; Lucaj, J.; Royster, Y.; et al. Clinical comorbidities, characteristics, and outcomes of mechanically ventilated patients in the state of Michigan with SARS-CoV-2 pneumonia. *J. Clin. Anesth.* **2020**, *67*, 110005. [[CrossRef](#)]
278. Kunal, S.; Sharma, S.M.; Sharma, S.K.; Gautam, D.; Bhatia, H.; Mahla, H.; Sharma, S.; Bhandari, S. Cardiovascular complications and its impact on outcomes in COVID-19. *Indian Heart J.* **2020**, *72*, 593–598. [[CrossRef](#)]
279. Kute, V.B.; Bhalla, A.K.; Guleria, S.; Ray, D.S.; Bahadur, M.M.; Shingare, A.; Hegde, U.; Gang, S.; Raju, S.; Patel, H.V.; et al. Clinical profile and outcome of COVID-19 in 250 kidney transplant recipients: A multicenter cohort study from India. *Transplantation* **2021**, *105*, 851–860. [[CrossRef](#)]
280. Laake, J.H.; Buanes, E.A.; Småstuen, M.C.; Kvåle, R.; Olsen, B.F.; Rustøen, T.; Strand, K.; Sørensen, V.; Hofso, K. Characteristics, Management and Survival of ICU Patients with Coronavirus Disease-19 in Norway, March–June 2020. A Prospective Observational Study. *Acta Anaesthesiol. Scand.* **2021**, *65*, 618–628. [[CrossRef](#)]
281. Lara, O.D.; O’Cearbhaill, R.E.; Smith, M.J.; Sutter, M.E.; Knisely, A.; McEachron, J.; Gabor, L.R.; Jee, J.; Fehniger, J.E.; Lee, Y.C.; et al. COVID-19 outcomes of patients with gynecologic cancer in New York City. *Cancer* **2020**, *126*, 4294–4303. [[CrossRef](#)]
282. Lee, J.; Jo, S.J.; Cho, Y.; Lee, J.H.; Oh, I.Y.; Park, J.J.; Cho, Y.S.; Choi, D.J. Effects of renin-angiotensin system blockers on the risk and outcomes of severe acute respiratory syndrome coronavirus 2 infection in patients with hypertension. *Korean J. Intern. Med.* **2021**, *36*, S123–S131. [[CrossRef](#)]
283. Lee, L.Y.; Cazier, J.B.; Angelis, V.; Arnold, R.; Bisht, V.; Campton, N.A.; Chackathayil, J.; Cheng, V.W.; Curley, H.M.; Fittall, M.W.; et al. COVID-19 mortality in patients with cancer on chemotherapy or other anticancer treatments: A prospective cohort study. *Lancet* **2020**, *395*, 1919–1926. [[CrossRef](#)]
284. Lee, S.C.; Son, K.J.; Han, C.H.; Jung, J.Y.; Park, S.C. Impact of comorbid asthma on severity of coronavirus disease (COVID-19). *Sci. Rep.* **2020**, *10*, 21805. [[CrossRef](#)]
285. Lee, Y.R.; Kang, M.K.; Song, J.E.; Kim, H.J.; Kweon, Y.O.; Tak, W.Y.; Jang, S.Y.; Park, J.G.; Lee, C.; Hwang, J.S.; et al. Clinical outcomes of coronavirus disease 2019 in patients with pre-existing liver diseases: A multicenter study in South Korea. *Clin. Mol. Hepatol.* **2020**, *26*, 562–576. [[CrossRef](#)]
286. Lei, C.; Lin, W.; Deng, X.; Hu, F.; Chen, F.; Cai, W.; Li, Y.; Wen, C.; Guan, Y.; Wang, J.; et al. Factors associated with clinical outcomes in patients with coronavirus disease 2019 in Guangzhou, China. *J. Clin. Virol.* **2020**, *133*, 104661. [[CrossRef](#)]
287. Lei, F.; Liu, Y.M.; Zhou, F.; Qin, J.J.; Zhang, P.; Zhu, L.; Zhang, X.J.; Cai, J.; Lin, L.; Ouyang, S.; et al. Longitudinal association between markers of liver injury and mortality in COVID-19 in China. *Hepatology* **2020**, *72*, 389–398. [[CrossRef](#)] [[PubMed](#)]
288. Leung, C. Risk factors for predicting mortality in elderly patients with COVID-19: A review of clinical data in China. *Mech. Ageing Dev.* **2020**, *188*, 111255. [[CrossRef](#)]
289. Li, G.; Liu, Y.; Jing, X.; Wang, Y.; Miao, M.; Tao, L.; Zhou, Z.; Xie, Y.; Huang, Y.; Lei, J.; et al. Mortality risk of COVID-19 in elderly males with comorbidities: A multi-country study. *Ageing* **2020**, *13*, 27–60. [[CrossRef](#)] [[PubMed](#)]
290. Li, G.; Xu, F.; Yin, X.; Wu, N.; Li, Y.; Zhang, T.; Chen, D.; Liu, K.; Qiu, Q. Lactic dehydrogenase-lymphocyte ratio for predicting prognosis of severe COVID-19. *Medicine* **2021**, *100*, e24441. [[CrossRef](#)]
291. Li, H.Y.; Wang, J.W.; Xu, L.W.; Zhao, X.L.; Feng, J.X.; Xu, Y.Z. Clinical analysis of 132 cases COVID-19 from Wuhan. *Medicine* **2020**, *99*, e22847. [[CrossRef](#)]

292. Li, K.; Chen, D.; Chen, S.; Feng, Y.; Chang, C.; Wang, Z.; Wang, N.; Zhen, G. Predictors of fatality including radiographic findings in adults with COVID-19. *Respir. Res.* **2020**, *21*, 146. [[CrossRef](#)]
293. Li, K.; Wu, J.; Wu, F.; Guo, D.; Chen, L.; Fang, Z.; Li, C. The Clinical and Chest CT Features Associated with Severe and Critical COVID-19 Pneumonia. *Investig. Radiol.* **2020**, *55*, 327–331. [[CrossRef](#)]
294. Li, T.; Lu, L.; Zhang, W.; Tao, Y.; Wang, L.; Bao, J.; Liu, B.; Duan, J. Clinical characteristics of 312 hospitalized older patients with COVID-19 in Wuhan, China. *Arch. Gerontol. Geriatr.* **2020**, *91*, 104185. [[CrossRef](#)]
295. Li, X.; Xu, S.; Yu, M.; Wang, K.; Tao, Y.; Zhou, Y.; Shi, J.; Zhou, M.; Wu, B.; Yang, Z.; et al. Risk factors for severity and mortality in adult COVID-19 inpatients in Wuhan. *J. Allergy Clin. Immunol.* **2020**, *146*, 110–118. [[CrossRef](#)] [[PubMed](#)]
296. Lian, J.; Jin, X.; Hao, S.; Cai, H.; Zhang, S.; Zheng, L.; Jia, H.; Hu, J.; Gao, J.; Zhang, Y.; et al. Analysis of Epidemiological and Clinical Features in Older Patients with Corona Virus Disease 2019 (COVID-19) out of Wuhan. *Clin. Infect. Dis.* **2020**, *71*, 740–747. [[CrossRef](#)] [[PubMed](#)]
297. Lièvre, A.; Turpin, A.; Ray-Coquard, I.; Le Malicot, K.; Thariat, J.; Ahle, G.; Neuzillet, C.; Paoletti, X.; Bouché, O.; Aldabbagh, K.; et al. Risk factors for coronavirus disease 2019 (COVID-19) severity and mortality among solid cancer patients and impact of the disease on anticancer treatment: A French nationwide cohort study (GCO-002 CACOVID-19). *Eur. J. Cancer* **2020**, *141*, 62–81. [[CrossRef](#)] [[PubMed](#)]
298. Lim, J.P.; Low, K.Y.H.; Lin, N.J.J.; Lim, C.Z.Q.; Ong, S.W.X.; Tan, W.Y.T.; Tay, W.C.; Tan, H.N.; Young, B.E.; Lye, D.C.B.; et al. Predictors for development of critical illness amongst older adults with COVID-19: Beyond age to age-associated factors. *Arch. Gerontol. Geriatr.* **2021**, *94*, 104331. [[CrossRef](#)]
299. Lin, L.; Jiang, X.; Zhang, Z.; Huang, S.; Zhang, Z.; Fang, Z.; Gu, Z.; Gao, L.; Shi, H.; Mai, L.; et al. Gastrointestinal symptoms of 95 cases with SARS-CoV-2 infection. *Gut* **2020**, *69*, 997–1001. [[CrossRef](#)]
300. Ling, S.F.; Broad, E.; Murphy, R.; Pappachan, J.M.; Pardesi-Newton, S.; Kong, M.; Jude, E.B. High-dose cholecalciferol booster therapy is associated with a reduced risk of mortality in patients with COVID-19: A cross-sectional multi-centre observational study. *Nutrients* **2020**, *12*, 3799. [[CrossRef](#)]
301. Liu, D.; Wang, Y.; Wang, J.; Liu, J.; Yue, Y.; Liu, W.; Zhang, F.; Wang, Z. Characteristics and outcomes of a sample of patients with COVID-19 identified through social media in Wuhan, China: Observational study. *J. Med. Internet Res.* **2020**, *22*, e20108. [[CrossRef](#)]
302. Liu, J.; Tu, C.; Zhu, M.; Wang, J.; Yang, C.; Liu, W.; Xiong, B. The clinical course and prognostic factors of severe COVID-19 in Wuhan, China: A retrospective case-control study. *Medicine* **2021**, *100*, e23996. [[CrossRef](#)]
303. Liu, S.; Luo, H.; Wang, Y.; Cuevas, L.E.; Wang, D.; Ju, S.; Yang, Y. Clinical characteristics and risk factors of patients with severe COVID-19 in Jiangsu province, China: A retrospective multicentre cohort study. *BMC Infect. Dis.* **2020**, *20*, 584. [[CrossRef](#)]
304. Liu, Y.; Du, X.; Chen, J.; Jin, Y.; Peng, L.; Wang, H.H.X.; Luo, M.; Chen, L.; Zhao, Y. Neutrophil-to-lymphocyte ratio as an independent risk factor for mortality in hospitalized patients with COVID-19. *J. Infect.* **2020**, *81*, e6–e12. [[CrossRef](#)]
305. Lohia, P.; Sreeram, K.; Nguyen, P.; Choudhary, A.; Khicher, S.; Yarandi, H.; Kapur, S.; Badr, M.S. Preexisting respiratory diseases and clinical outcomes in COVID-19: A multihospital cohort study on predominantly African American population. *Respir. Res.* **2021**, *22*, 37. [[CrossRef](#)]
306. Long, H.; Nie, L.; Xiang, X.; Li, H.; Zhang, X.; Fu, X.; Ren, H.; Liu, W.; Wang, Q.; Wu, Q. D-dimer and prothrombin time are the significant indicators of severe COVID-19 and poor prognosis. *Biomed. Res. Int.* **2020**, *2020*, 6159720. [[CrossRef](#)]
307. Lorente, L.; Martín, M.M.; Argueso, M.; Solé-Violán, J.; Perez, A.; Marcos, Y.; Ramos, J.A.; Ramos-Gómez, L.; López, S.; Franco, A.; et al. Association between red blood cell distribution width and mortality of COVID-19 patients. *Anaesth. Crit. Care Pain Med.* **2021**, *40*, 100777. [[CrossRef](#)]
308. Lorente, L.; Martín, M.M.; Franco, A.; Barrios, Y.; Cáceres, J.J.; Solé-Violán, J.; Perez, A.; Marcos, Y.; Ramos, J.A.; Ramos-Gómez, L.; et al. HLA genetic polymorphisms and prognosis of patients with COVID-19. *Med. Intensiva* **2021**, *45*, 96–103. [[CrossRef](#)]
309. Louapre, C.; Collongues, N.; Stankoff, B.; Giannesini, C.; Papeix, C.; Bensa, C.; Deschamps, R.; Créange, A.; Wahab, A.; Pelletier, J.; et al. Clinical characteristics and outcomes in patients with coronavirus disease 2019 and multiple sclerosis. *JAMA Neurol.* **2020**, *77*, 1079–1088. [[CrossRef](#)]
310. Lu, Y.; Huang, Z.; Wang, M.; Tang, K.; Wang, S.; Gao, P.; Xie, J.; Wang, T.; Zhao, J. Clinical characteristics and predictors of mortality in young adults with severe COVID-19: A retrospective observational study. *Ann. Clin. Microbiol. Antimicrob.* **2021**, *20*, 3. [[CrossRef](#)]
311. Lucar, J.; Wingler, M.J.B.; Cretella, D.A.; Ward, L.M.; Sims Gomillia, C.E.; Chamberlain, N.; Shimose, L.A.; Brock, J.B.; Harvey, J.; Wilhelm, A.; et al. Epidemiology, clinical features, and outcomes of hospitalized adults with COVID-19: Early experience from an academic medical center in Mississippi. *South Med. J.* **2021**, *114*, 144–149. [[CrossRef](#)]
312. Lunski, M.J.; Burton, J.; Tawagi, K.; Maslov, D.; Simenson, V.; Barr, D.; Yuan, H.; Johnson, D.; Matrana, M.; Cole, J.; et al. Multivariate mortality analyses in COVID-19: Comparing patients with cancer and patients without cancer in Louisiana. *Cancer* **2021**, *127*, 266–274. [[CrossRef](#)]
313. Luo, H.; Liu, S.; Wang, Y.; Phillips-Howard, P.A.; Ju, S.; Yang, Y.; Wang, D. Age differences in clinical features and outcomes in patients with COVID-19, Jiangsu, China: A retrospective, multicentre cohort study. *BMJ Open* **2020**, *10*, e039887. [[CrossRef](#)]
314. Maguire, D.; Woods, M.; Richards, C.; Dolan, R.; Veitch, J.W.; Sim, W.M.J.; Kemmett, O.E.H.; Milton, D.C.; Randall, S.L.W.; Bui, L.D.; et al. Prognostic factors in patients admitted to an urban teaching hospital with COVID-19 infection. *J. Transl. Med.* **2020**, *18*, 354. [[CrossRef](#)]

315. Mak, J.K.L.; Kuja-Halkola, R.; Wang, Y.; Hägg, S.; Jylhävä, J. Frailty and comorbidity in predicting community COVID-19 mortality in the UK biobank: The effect of sampling. *J. Am. Geriatr. Soc.* **2021**, *69*, 1128–1139. [[CrossRef](#)]
316. Marengoni, A.; Zucchelli, A.; Grande, G.; Fratiglioni, L.; Rizzuto, D. The impact of delirium on outcomes for older adults hospitalised with COVID-19. *Age Ageing* **2020**, *49*, 923–926. [[CrossRef](#)]
317. Marouf, N.; Cai, W.; Said, K.N.; Daas, H.; Diab, H.; Chinta, V.R.; Hssain, A.A.; Nicolau, B.; Sanz, M.; Tamimi, F. Association between periodontitis and severity of COVID-19 infection: A case–control study. *J. Clin. Periodontol.* **2021**, *48*, 483–491. [[CrossRef](#)]
318. Martinez-Lopez, J.; Mateos, M.; Encinas, C.; Sureda, A.; Hernandez-Rivas, J.; Lopez de la Guia, A.; Conde, D.; Krsnik, I.; Prieto, E.; Riaza Grau, R. Multiple myeloma and SARS-CoV-2 infection: Clinical characteristics and prognostic factors of inpatient mortality. *Blood Cancer J.* **2020**, *10*, 103. [[CrossRef](#)]
319. Martins, A.; Mouro, M.; Caldas, J.; Silva-Pinto, A.; Santos, A.S.; Xerinda, S.; Ferreira, A.; Figueiredo, P.; Sarmiento, A.; Santos, L. Clinical characteristics and outcomes of critically ill COVID-19 patients admitted to an infectious diseases intensive care unit in Portugal. *Crit. Care Shock* **2021**, *24*, 32–40.
320. Mash, R.J.; Presence-Vollenhoven, M.; Adeniji, A.; Christoffels, R.; Doubell, K.; Eksteen, L.; Hendrikse, A.; Hutton, L.; Jenkins, L.; Kapp, P.; et al. Evaluation of patient characteristics, management and outcomes for COVID-19 at district hospitals in the Western Cape, South Africa: Descriptive observational study. *BMJ Open* **2021**, *11*, e047016. [[CrossRef](#)]
321. Mather, J.F.; Seip, R.L.; McKay, R.G. Impact of famotidine use on clinical outcomes of hospitalized patients with COVID-19. *Am. J. Gastroenterol.* **2020**, *115*, 1617–1623. [[CrossRef](#)]
322. Mato, A.R.; Roeker, L.E.; Lamanna, N.; Allan, J.N.; Leslie, L.; Pagel, J.M.; Patel, K.; Osterborg, A.; Wojenski, D.; Kamdar, M.; et al. Outcomes of COVID-19 in patients with CLL: A multicenter international experience. *Blood* **2020**, *136*, 1134–1143. [[CrossRef](#)]
323. Matsuzawa, Y.; Ogawa, H.; Kimura, K.; Konishi, M.; Kirigaya, J.; Fukui, K.; Tsukahara, K.; Shimizu, H.; Iwabuchi, K.; Yamada, Y.; et al. Renin-angiotensin system inhibitors and the severity of coronavirus disease 2019 in Kanagawa, Japan: A retrospective cohort study. *Hypertens Res.* **2020**, *43*, 1257–1266. [[CrossRef](#)]
324. Mayer, M.A.; Vidal-Alaball, J.; Puigdemívol-Sánchez, A.; Marín Gomez, F.X.; Leis, A.; Mendioroz Peña, J. Clinical characterization of patients with COVID-19 in primary care in Catalonia: Retrospective observational study. *JMIR Public Health Surveill.* **2021**, *7*, e25452. [[CrossRef](#)]
325. Mehta, H.B.; Li, S.; Goodwin, J.S. Risk factors associated with SARS-CoV-2 infections, hospitalization, and mortality among US nursing home residents. *JAMA Netw. Open* **2021**, *4*, e216315. [[CrossRef](#)] [[PubMed](#)]
326. Mehta, V.; Goel, S.; Kabarriti, R.; Cole, D.; Goldfinger, M.; Acuna-Villaorduna, A.; Pradhan, K.; Thota, R.; Reissman, S.; Sparano, J.A.; et al. Case Fatality Rate of Cancer Patients with COVID-19 in a New York Hospital System. *Cancer Discov.* **2020**, *10*, 935–941. [[CrossRef](#)] [[PubMed](#)]
327. Ménager, P.; Brière, O.; Gautier, J.; Riou, J.; Sacco, G.; Brangier, A.; Annweiler, C.; Geria-Covid Study Group OBOT. Regular use of VKA prior to COVID-19 associated with lower 7-day survival in hospitalized frail elderly COVID-19 patients: The GERIA-COVID cohort study. *Nutrients* **2020**, *13*, 39. [[CrossRef](#)] [[PubMed](#)]
328. Mendes, A.; Serratrice, C.; Herrmann, F.R.; Genton, L.; Périer, S.; Scheffler, M.; Fassier, T.; Huber, P.; Jacques, M.; Prendki, V.; et al. Predictors of in-hospital mortality in older patients with COVID-19: The COVIDAge study. *J. Am. Med. Dir. Assoc.* **2020**, *21*, 1546. [[CrossRef](#)] [[PubMed](#)]
329. Messika, J.; Eloy, P.; Roux, A.; Hirschi, S.; Nieves, A.; Le Pavec, J.; Sénéchal, A.; Saint Raymond, C.; Carlier, N.; Demant, X.; et al. COVID-19 in lung transplant recipients. *Transplantation* **2021**, *105*, 177–186. [[CrossRef](#)] [[PubMed](#)]
330. Middeldorp, S.; Coppens, M.; van Haaps, T.F.; Foppen, M.; Vlaar, A.P.; Müller, M.C.A.; Bouman, C.C.S.; Beenen, L.F.M.; Kootte, R.S.; Heijmans, J.; et al. Incidence of venous thromboembolism in hospitalized patients with COVID-19. *J. Thromb. Haemost.* **2020**, *18*, 1995–2002. [[CrossRef](#)] [[PubMed](#)]
331. Moghaddam, A.; Heller, R.A.; Sun, Q.; Seelig, J.; Cherkezov, A.; Seibert, L.; Hackler, J.; Seemann, P.; Diegmann, J.; Pilz, M.; et al. Selenium deficiency is associated with mortality risk from COVID-19. *Nutrients* **2020**, *12*, 2098. [[CrossRef](#)]
332. Morrison, A.R.; Johnson, J.M.; Griebbe, K.M.; Jones, M.C.; Stine, J.J.; Hencken, L.N.; To, L.; Bianchini, M.L.; Vahia, A.T.; Swiderek, J.; et al. Clinical characteristics and predictors of survival in adults with coronavirus disease 2019 receiving tocilizumab. *J. Autoimmun.* **2020**, *114*, 102512. [[CrossRef](#)]
333. Mostaza, J.M.; García-Iglesias, F.; González-Alegre, T.; Blanco, F.; Varas, M.; Hernández-Blanco, C.; Hontañón, V.; Jaras-Hernández, M.J.; Martínez-Prieto, M.; Menéndez-Saldaña, A.; et al. Clinical course and prognostic factors of COVID-19 infection in an elderly hospitalized population. *Arch. Gerontol. Geriatr.* **2020**, *91*, 104204. [[CrossRef](#)]
334. Murthy, S.; Archambault, P.M.; Atique, A.; Carrier, F.M.; Cheng, M.P.; Codan, C.; Daneman, N.; Dechert, W.; Douglas, S.; Fiest, K.M.; et al. Characteristics and outcomes of patients with COVID-19 admitted to hospital and intensive care in the first phase of the pandemic in Canada: A national cohort study. *CMAJ Open* **2021**, *9*, E181–E188. [[CrossRef](#)]
335. Nachega, J.B.; Ishoso, D.K.; Otokoye, J.O.; Hermans, M.P.; Machezano, R.N.; Sam-Agudu, N.A.; Bongo-Pasi Nswe, C.; Mbala-Kingebeni, P.; Madinga, J.N.; Mukendi, S.; et al. Clinical characteristics and outcomes of patients hospitalized for COVID-19 in Africa: Early insights from the Democratic Republic of the Congo. *Am. J. Trop. Med. Hyg.* **2020**, *103*, 2419–2428. [[CrossRef](#)]
336. Nachtigall, I.; Lenga, P.; Józwiak, K.; Thürmann, P.; Meier-Hellmann, A.; Kuhlén, R.; Brederlau, J.; Bauer, T.; Tebbenjohanns, J.; Schwegmann, K.; et al. Clinical course and factors associated with outcomes among 1904 patients hospitalized with COVID-19 in Germany: An observational study. *Clin. Microbiol. Infect.* **2020**, *26*, 1663–1669. [[CrossRef](#)]

337. Nakamura, S.; Kanemasa, Y.; Atsuta, Y.; Fujiwara, S.; Tanaka, M.; Fukushima, K.; Kobayashi, T.; Shimoyama, T.; Omuro, Y.; Sekiya, N.; et al. Characteristics and outcomes of coronavirus disease 2019 (COVID-19) patients with cancer: A single-center retrospective observational study in Tokyo, Japan. *Int. J. Clin. Oncol.* **2021**, *26*, 485–493. [[CrossRef](#)]
338. Namendys-Silva, S.A.; Alvarado-Ávila, P.E.; Domínguez-Cherit, G.; Rivero-Sigarroa, E.; Sánchez-Hurtado, L.A.; Gutiérrez-Villaseñor, A.; Romero-González, J.P.; Rodríguez-Bautista, H.; García-Briones, A.; Garnica-Camacho, C.; et al. Outcomes of patients with COVID-19 in the intensive care unit in Mexico: A multicenter observational study. *Heart Lung* **2021**, *50*, 28–32. [[CrossRef](#)]
339. COVIDSurg Collaborative. Mortality and pulmonary complications in patients undergoing surgery with perioperative SARS-CoV-2 infection: An international cohort study. *Lancet* **2020**, *396*, 27–38. [[CrossRef](#)]
340. Ng, J.H.; Hirsch, J.S.; Wanchoo, R.; Sachdeva, M.; Sakhiya, V.; Hong, S.; Jhaveri, K.D.; Fishbane, S.; Northwell COVID-19 Research Consortium and the Northwell Nephrology COVID-19 Research Consortium. Outcomes of patients with end-stage kidney disease hospitalized with COVID-19. *Kidney Int.* **2020**, *98*, 1530–1539. [[CrossRef](#)]
341. Nie, L.; Dai, K.; Wu, J.; Zhou, X.; Hu, J.; Zhang, C.; Zhan, Y.; Song, Y.; Fan, W.; Hu, Z.; et al. Clinical characteristics and risk factors for in-hospital mortality of lung cancer patients with COVID-19: A multicenter, retrospective, cohort study. *Thorac. Cancer* **2021**, *12*, 57–65. [[CrossRef](#)]
342. Nie, Y.; Li, J.; Huang, X.; Guo, W.; Zhang, X.; Ma, Y.; Wang, H.; Qi, M.; Tang, X.; Shen, X.; et al. Epidemiological and clinical characteristics of 671 COVID-19 patients in Henan province, China. *Int. J. Epidemiol.* **2020**, *49*, 1085–1095. [[CrossRef](#)]
343. Nikpouraghdam, M.; Jalali Farahani, A.; Alishiri, G.; Heydari, S.; Ebrahimi, M.; Samadinia, H.; Sepandi, M.; Jafari, N.J.; Izadi, M.; Qazvini, A.; et al. Epidemiological characteristics of coronavirus disease 2019 (COVID-19) patients in Iran: A single center study. *J. Clin. Virol.* **2020**, *127*, 104378. [[CrossRef](#)]
344. Núñez-Gil, I.J.; Fernández-Ortiz, A.; Eid, C.M.; Huang, J.; Romero, R.; Becerra-Muñoz, V.M.; Uribarri, A.; Feltes, G.; Trabattoni, D.; Fernández-Rozas, I.; et al. Underlying heart diseases and acute COVID-19 outcomes. *Cardiol. J.* **2021**, *28*, 202–214. [[CrossRef](#)]
345. O'Horo, J.C.; Cerhan, J.R.; Cahn, E.J.; Bauer, P.R.; Temesgen, Z.; Ebbert, J.; Abril, A.; Abu Saleh, O.M.; Assi, M.; Barbari, E.F.; et al. Outcomes of COVID-19 with the mayo clinic model of care and research. *Mayo Clin. Proc.* **2021**, *96*, 601–618. [[CrossRef](#)]
346. Okoh, A.K.; Sossou, C.; Dangayach, N.S.; Meledathu, S.; Phillips, O.; Raczek, C.; Patti, M.; Kang, N.; Hirji, S.A.; Cathcart, C.; et al. Coronavirus disease 19 in minority populations of Newark, New Jersey. *Int. J. Equity Health* **2020**, *19*, 93. [[CrossRef](#)]
347. Otero, J.A.; Briongos Figuero, L.S.; Gabella Martín, M.; Usategui Martín, I.; Cubero Morais, P.; Cuellar Olmedo, L.; Inglada Galiana, L.; Dueñas Gutiérrez, C.; Carretero Gómez, J.; Corral Gudino, L.; et al. The nutritional status of the elderly patient infected with COVID-19: The forgotten risk factor? *Curr. Med. Res. Opin.* **2021**, *37*, 549–554. [[CrossRef](#)]
348. Oto, O.A.; Ozturk, S.; Turgutalp, K.; Arici, M.; Alpay, N.; Merhametsiz, O.; Sipahi, S.; Ogutmen, M.B.; Yelken, B.; Altiparmak, M.R.; et al. Predicting the outcome of COVID-19 infection in kidney transplant recipients. *BMC Nephrol.* **2021**, *22*, 100. [[CrossRef](#)]
349. Ouldali, N.; Yang, D.D.; Madhi, F.; Levy, M.; Gaschignard, J.; Craiu, I.; Guiddir, T.; Schweitzer, C.; Wiedemann, A. Factors associated with severe SARS-CoV-2 infection. *Pediatrics* **2021**, *147*, e2020023432. [[CrossRef](#)]
350. Özdemir, İ.; Özbek, B.; Çetin, N. Permanent atrial fibrillation portends poor outcomes in hospitalized patients with COVID-19: A retrospective observational study. *J. Electrocardiol.* **2021**, *65*, 113–120. [[CrossRef](#)]
351. Ozturk, S.; Turgutalp, K.; Arici, M.; Odabas, A.R.; Altiparmak, M.R.; Aydin, Z.; Cebeci, E.; Basturk, T.; Soyupacaci, Z.; Sahin, G.; et al. Mortality analysis of COVID-19 infection in chronic kidney disease, haemodialysis and renal transplant patients compared with patients without kidney disease: A nationwide analysis from Turkey. *Nephrol. Dial. Transplant.* **2020**, *35*, 2083–2095. [[CrossRef](#)]
352. Park, B.E.; Lee, J.H.; Park, H.K.; Kim, H.N.; Jang, S.Y.; Bae, M.H.; Yang, D.H.; Park, H.S.; Cho, Y.; Lee, B.Y.; et al. Impact of cardiovascular risk factors and cardiovascular diseases on outcomes in patients hospitalized with COVID-19 in Daegu metropolitan city. *J. Korean Med. Sci.* **2021**, *36*, e15. [[CrossRef](#)]
353. Park, J.G.; Kang, M.K.; Lee, Y.R.; Song, J.E.; Kim, N.Y.; Kweon, Y.O.; Tak, W.Y.; Jang, S.Y.; Lee, C.; Kim, B.S.; et al. Fibrosis-4 index as a predictor for mortality in hospitalised patients with COVID-19: A retrospective multicentre cohort study. *BMJ Open* **2020**, *10*, e041989. [[CrossRef](#)]
354. Parlak, S.; Çıvıgın, E.; Beşler, M.; Kayıpmaz, A. The effect of hepatic steatosis on COVID-19 severity: Chest computed tomography findings. *Saudi J. Gastroenterol.* **2021**, *27*, 105–110.
355. Pascual, J.; Melilli, E.; Jiménez-Martín, C.; González-Monte, E.; Zárraga, S.; Gutiérrez-Dalmau, A.; López-Jiménez, V.; Juega, J.; Muñoz-Cepeda, M.; Lorenzo, I.; et al. COVID-19-related mortality during the first 60 days after kidney transplantation. *Eur. Urol.* **2020**, *78*, 641–643. [[CrossRef](#)] [[PubMed](#)]
356. Passamonti, F.; Cattaneo, C.; Arcaini, L.; Bruna, R.; Cavo, M.; Merli, F.; Angelucci, E.; Kramerper, M.; Cairoli, R.; Della Porta, M.G.; et al. Clinical characteristics and risk factors associated with COVID-19 severity in patients with haematological malignancies in Italy: A retrospective, multicentre, cohort study. *Lancet Haematol.* **2020**, *7*, e737–e745. [[CrossRef](#)]
357. Patel, A.; Abdulaal, A.; Ariyanayagam, D.; Killington, K.; Denny, S.J.; Mughal, N.; Hughes, S.; Goel, N.; Davies, G.W.; Moore, L.S.P.; et al. Investigating the association between ethnicity and health outcomes in SARS-CoV-2 in a London secondary care population. *PLoS ONE* **2020**, *15*, e0240960. [[CrossRef](#)] [[PubMed](#)]
358. Pei, G.; Zhang, Z.; Peng, J.; Liu, L.; Zhang, C.; Yu, C.; Ma, Z.; Huang, Y.; Liu, W.; Yao, Y.; et al. Renal Involvement and Early Prognosis in Patients with COVID-19 Pneumonia. *J. Am. Soc. Nephrol.* **2020**, *31*, 1157–1165. [[CrossRef](#)]

359. Peiró, Ó.; Carrasquer, A.; Sánchez-Gimenez, R.; Lal-Trehan, N.; Del-Moral-Ronda, V.; Bonet, G.; Fort-Gallifa, I.; Picó-Plana, E.; Bastón-Paz, N.; Gutiérrez, C.; et al. Biomarkers and short-term prognosis in COVID-19. *Biomarkers* **2021**, *26*, 119–126. [[CrossRef](#)]
360. Pepe, M.; Maroun-Eid, C.; Romero, R.; Arroyo-Espliguero, R.; Fernández-Rozas, I.; Aparisi, A.; Becerra-Muñoz, V.M.; García Aguado, M.; Brindicci, G.; Huang, J.; et al. Clinical presentation, therapeutic approach, and outcome of young patients admitted for COVID-19, with respect to the elderly counterpart. *Clin. Exp. Med.* **2021**, *21*, 249–268. [[CrossRef](#)]
361. Pereira, M.R.; Mohan, S.; Cohen, D.J.; Husain, S.A.; Dube, G.K.; Ratner, L.E.; Arcasoy, S.; Aversa, M.M.; Benvenuto, L.J.; Dadhania, D.M.; et al. COVID-19 in Solid Organ Transplant Recipients: Initial Report from the US Epicenter. *Am. J. Transplant.* **2020**, *20*, 1800–1808. [[CrossRef](#)]
362. Pinato, D.J.; Lee, A.J.X.; Biello, F.; Seguí, E.; Aguilar-Company, J.; Carbó, A.; Bruna, R.; Bower, M.; Rizzo, G.; Benafif, S.; et al. Presenting features and early mortality from SARS-CoV-2 infection in cancer patients during the initial stage of the COVID-19 pandemic in Europe. *Cancers* **2020**, *12*, 1841. [[CrossRef](#)]
363. Piñeiro, G.J.; Molina-Andújar, A.; Hermida, E.; Blasco, M.; Quintana, L.F.; Rojas, G.M.; Mercadal, J.; Castro, P.; Sandoval, E.; Andrea, R.; et al. Severe acute kidney injury in critically ill COVID-19 patients. *J. Nephrol.* **2021**, *34*, 285–293. [[CrossRef](#)]
364. Pizzini, A.; Aichner, M.; Sahanic, S.; Böhm, A.; Egger, A.; Hoermann, G.; Kurz, K.; Widmann, G.; Bellmann-Weiler, R.; Weiss, G.; et al. Impact of vitamin D deficiency on COVID-19—A prospective analysis from the CovILD registry. *Nutrients* **2020**, *12*, 2775. [[CrossRef](#)]
365. Plotnikow, G.A.; Matesa, A.; Nadur, J.M.; Alonso, M.; Nuñez, I.L.; Vergara, G.; Alfageme, M.J.; Vitale, A.; Gil, M.; Kinzler, V.; et al. Characteristics and outcomes of patients infected with nCoV19 requiring invasive mechanical ventilation in Argentina. *Rev. Bras. Ter. Intensiv.* **2020**, *32*, 348–353. [[CrossRef](#)]
366. Pongpirul, W.A.; Wiboonchutikul, S.; Charoenpong, L.; Panitantum, N.; Vachiraphan, A.; Uttayamakul, S.; Pongpirul, K.; Manosuthi, W.; Prasithsirikul, W. Clinical course and potential predictive factors for pneumonia of adult patients with coronavirus disease 2019 (COVID-19): A retrospective observational analysis of 193 confirmed cases in Thailand. *PLoS Negl. Trop. Dis.* **2020**, *14*, e0008806. [[CrossRef](#)]
367. Prado-Galbarro, F.; Sanchez-Piedra, C.; Gamiño-Arroyo, A.E.; Cruz-Cruz, C. Determinants of survival after severe acute respiratory syndrome coronavirus 2 infection in Mexican outpatients and hospitalised patients. *Public Health* **2020**, *189*, 66–72. [[CrossRef](#)]
368. Qian, J.; Zhao, L.; Ye, R.Z.; Li, X.J.; Liu, Y.L. Age-dependent gender differences in COVID-19 in mainland China: Comparative study. *Clin. Infect. Dis.* **2020**, *71*, 2488–2494. [[CrossRef](#)]
369. Qin, C.; Zhou, L.; Hu, Z.; Zhang, S.; Yang, S.; Tao, Y.; Xie, C.; Ma, K.; Shang, K.; Wang, W.; et al. Dysregulation of immune response in patients with COVID-19 in Wuhan, China. *Clin. Infect. Dis.* **2020**, *71*, 762–768. [[CrossRef](#)]
370. Qin, L.; Li, X.; Shi, J.; Yu, M.; Wang, K.; Tao, Y.; Zhou, Y.; Zhou, M.; Xu, S.; Wu, B.; et al. Gendered effects on inflammation reaction and outcome of COVID-19 patients in Wuhan. *J. Med. Virol.* **2020**, *92*, 2684–2692. [[CrossRef](#)]
371. Qin, W.; Bai, W.; Liu, K.; Liu, Y.; Meng, X.; Zhang, K.; Zhang, M. Clinical course and risk factors of disease deterioration in critically ill patients with COVID-19. *Hum. Gene Ther.* **2021**, *32*, 310–315. [[CrossRef](#)]
372. Qin, W.; Dong, F.; Zhang, Z.; Hu, B.; Chen, S.; Zhu, Z.; Li, F.; Wang, X.; Zhang, Y.; Wang, Y.; et al. Low molecular weight heparin and 28-day mortality among patients with coronavirus disease 2019: A cohort study in the early epidemic era. *Thromb. Res.* **2021**, *198*, 19–22. [[CrossRef](#)]
373. Qu, R.; Ling, Y.; Zhang, Y.H.; Wei, L.Y.; Chen, X.; Li, X.M.; Liu, X.Y.; Liu, H.M.; Guo, Z.; Ren, H.; et al. Platelet-to-lymphocyte ratio is associated with prognosis in patients with coronavirus disease-19. *J. Med. Virol.* **2020**, *92*, 1533–1541. [[CrossRef](#)]
374. Quisi, A.; Alıcı, G.; Harbalıoğlu, H.; Genç, Ö.; Er, F.; Allahverdiyev, S.; Yıldırım, A.; Kurt, I.H. The CHA2DS2-VASc score and in-hospital mortality in patients with COVID-19: A multicenter retrospective cohort study. *Turk Kardiyol. Dern. Ars.* **2020**, *48*, 656–663.
375. Raimondi, F.; Novelli, L.; Ghirardi, A.; Russo, F.M.; Pellegrini, D.; Biza, R.; Trapasso, R.; Giuliani, L.; Anelli, M.; Amoroso, M.; et al. Covid-19 and gender: Lower rate but same mortality of severe disease in women—an observational study. *BMC Pulm. Med.* **2021**, *21*, 96. [[CrossRef](#)]
376. Rajter, J.C.; Sherman, M.S.; Fatteh, N.; Vogel, F.; Sacks, J.; Rajter, J. Use of ivermectin is associated with lower mortality in hospitalized patients with COVID-19 (ICON study). *Chest* **2020**, *159*, 85–92. [[CrossRef](#)]
377. Ramaswamy, A.; Nayak, L.; Roy Moulik, N.; Sengar, M.; Chinnaswamy, G.; Jobanputra, K.; Shah, M.J.; Kapoor, A.; Joshi, A.; Kumar, A.; et al. COVID-19 in cancer patients on active systemic therapy—Outcomes from LMIC scenario with an emphasis on need for active treatment. *Cancer Med.* **2020**, *9*, 8747–8753. [[CrossRef](#)]
378. Ramos-Rincon, J.M.; Buonaiuto, V.; Ricci, M.; Martín-Carmona, J.; Paredes-Ruiz, D.; Calderón-Moreno, M.; Rubio-Rivas, M.; Beato-Pérez, J.L.; Arnalich-Fernández, F.; Monge-Monge, D.; et al. Clinical characteristics and risk factors for mortality in very old patients hospitalized with COVID-19 in Spain. *J. Gerontol. A Biol. Sci. Med. Sci.* **2021**, *76*, e28–e37. [[CrossRef](#)]
379. Rastad, H.; Ejtahed, H.S.; Shafiee, G.; Safari, A.; Shahrestanaki, E.; Khodaparast, Z.; Hassani, N.S.; Rezaei, M.; Nazari, M.; Zakani, A.; et al. The risk factors associated with COVID-19-related death among patients with end-stage renal disease. *BMC Nephrol.* **2021**, *22*, 33. [[CrossRef](#)]
380. Recinella, G.; Marasco, G.; Serafini, G.; Maestri, L.; Bianchi, G.; Forti, P.; Zoli, M. Prognostic role of nutritional status in elderly patients hospitalized for COVID-19: A monocentric study. *Ageing Clin. Exp. Res.* **2020**, *32*, 2695–2701. [[CrossRef](#)]

381. Ren, L.; Yao, D.; Cui, Z.; Chen, S.; Yan, H. Corona virus disease 2019 patients with different disease severity or age range: A single-center study of clinical features and prognosis. *Medicine* **2020**, *99*, e22899. [[CrossRef](#)]
382. Rieg, S.; von Cube, M.; Kalbhenn, J.; Utzolino, S.; Pernice, K.; Bechet, L.; Baur, J.; Lang, C.N.; Wagner, D.; Wolkewitz, M.; et al. COVID-19 in-hospital mortality and mode of death in a dynamic and non-restricted tertiary care model in Germany. *PLoS ONE* **2020**, *15*, e0242127. [[CrossRef](#)]
383. Rivera-Izquierdo, M.; Del Carmen Valero-Ubierna, M.; R-delAmo, J.L.; Fernández-García, M.Á.; Martínez-Diz, S.; Tahery-Mahmoud, A.; Rodríguez-Camacho, M.; Gámiz-Molina, A.B.; Barba-Gyengo, N.; Gámez-Baeza, P.; et al. Sociodemographic, clinical and laboratory factors on admission associated with COVID-19 mortality in hospitalized patients: A retrospective observational study. *PLoS ONE* **2020**, *15*, e0235107. [[CrossRef](#)]
384. Rivinius, R.; Kaya, Z.; Schramm, R.; Boeken, U.; Provaznik, Z.; Heim, C.; Knosalla, C.; Schoenrath, F.; Rieth, A.; Berchtold-Herz, M.; et al. COVID-19 among heart transplant recipients in Germany: A multicenter survey. *Clin. Res. Cardiol.* **2020**, *109*, 1531–1539. [[CrossRef](#)]
385. Roberts, M.B.; Izzy, S.; Tahir, Z.; Al Jarrah, A.; Fishman, J.A.; El Khoury, J. COVID-19 in solid organ transplant recipients: Dynamics of disease progression and inflammatory markers in ICU and non-ICU admitted patients. *Transpl. Infect. Dis.* **2020**, *22*, e13407. [[CrossRef](#)] [[PubMed](#)]
386. Robertson, J.; Gostner, J.M.; Nilsson, S.; Andersson, L.M.; Fuchs, D.; Gisslen, M. Serum neopterin levels in relation to mild and severe COVID-19. *BMC Infect. Dis.* **2020**, *20*, 942. [[CrossRef](#)] [[PubMed](#)]
387. Rodilla, E.; López-Carmona, M.D.; Cortes, X.; Cobos-Palacios, L.; Canales, S.; Sáez, M.C.; Campos Escudero, S.; Rubio-Rivas, M.; Díez Manglano, J.; Freire Castro, S.J.; et al. Impact of arterial stiffness on all-cause mortality in patients hospitalized with COVID-19 in Spain. *Hypertension* **2021**, *77*, 856–867. [[CrossRef](#)] [[PubMed](#)]
388. Rodríguez, A.; Moreno, G.; Gómez, J.; Carbonell, R.; Picó-Plana, E.; Benavent Bofill, C.; Sánchez Parrilla, R.; Trefler, S.; Esteve Pitarch, E.; Canadell, L.; et al. Severe infection due to the SARS-CoV-2 coronavirus: Experience of a tertiary hospital with COVID-19 patients during the 2020 pandemic. *Med. Intensiva* **2020**, *44*, 525–533. [[CrossRef](#)] [[PubMed](#)]
389. Rodríguez-Díaz, C.E.; Guilamo-Ramos, V.; Mena, L.; Hall, E.; Honermann, B.; Crowley, J.S.; Baral, S.; Prado, G.J.; Marzan-Rodríguez, M.; Beyrer, C.; et al. Risk for COVID-19 Infection and Death among Latinos in the United States: Examining Heterogeneity in Transmission Dynamics. *Ann. Epidemiol.* **2020**, *52*, 46–53.e2. [[CrossRef](#)]
390. Rodríguez-Molinero, A.; Gálvez-Barrón, C.; Miñarro, A.; Macho, O.; López, G.F.; Robles, M.T.; Dapena, M.D.; Martínez, S.; Milà Ràfols, N.; Monaco, E.E.; et al. Association between COVID-19 prognosis and disease presentation, comorbidities and chronic treatment of hospitalized patients. *PLoS ONE* **2020**, *15*, e0239571. [[CrossRef](#)]
391. Roedl, K.; Jarczack, D.; Thasler, L.; Bachmann, M.; Schulte, F.; Bein, B.; Weber, C.F.; Schäfer, U.; Veit, C.; Hauber, H.P.; et al. Mechanical ventilation and mortality among 223 critically ill patients with coronavirus disease 2019: A multicentric study in Germany. *Aust. Crit. Care* **2021**, *34*, 167–175. [[CrossRef](#)]
392. Rokni, M.; Ahmadikia, K.; Asghari, S.; Mashaei, S.; Hassanali, F. Comparison of clinical, para-clinical and laboratory findings in survived and deceased patients with COVID-19: Diagnostic role of inflammatory indications in determining the severity of illness. *BMC Infect. Dis.* **2020**, *20*, 869. [[CrossRef](#)]
393. Ronderos Botero, D.M.; Omar, A.M.S.; Sun, H.K.; Mantri, N.; Fortuzi, K.; Choi, Y.; Adrish, M.; Nicu, M.; Bella, J.N.; Chilimuri, S. COVID-19 in the healthy patient population: Demographic and clinical phenotypic characterization and predictors of in-hospital outcomes. *Arter. Thromb. Vasc. Biol.* **2020**, *40*, 2764–2775. [[CrossRef](#)]
394. Rosenthal, N.; Cao, Z.; Gundrum, J.; Sianis, J.; Safo, S. Risk factors associated with in-hospital mortality in a US national sample of patients with COVID-19. *JAMA Netw. Open* **2020**, *3*, e2029058. [[CrossRef](#)]
395. Rossi, L.; Malagoli, A.; Biagi, A.; Zanni, A.; Sticozzi, C.; Comastri, G.; Pannone, L.; Gandolfi, S.; Vergara, P.; Villani, G.Q. Renin-angiotensin system inhibitors and mortality in patients with COVID-19. *Infection* **2021**, *49*, 287–294. [[CrossRef](#)]
396. Rottoli, M.; Bernante, P.; Belvedere, A.; Balsamo, F.; Garelli, S.; Giannella, M.; Cascavilla, A.; Tedeschi, S.; Ianniruberto, S.; Del Turco, E.R.; et al. How important is obesity as a risk factor for respiratory failure, intensive care admission and death in hospitalised COVID-19 patients? Results from a single Italian centre. *Eur. J. Endocrinol.* **2020**, *183*, 389–397. [[CrossRef](#)]
397. Russo, V.; Di Maio, M.; Mottola, F.F.; Pagnano, G.; Attena, E.; Verde, N.; Di Micco, P.; Silverio, A.; Scudiero, F.; Nunziata, L.; et al. Clinical characteristics and prognosis of hospitalized COVID-19 patients with incident sustained tachyarrhythmias: A multicenter observational study. *Eur. J. Clin. Invest.* **2020**, *50*, e13387. [[CrossRef](#)]
398. Rüttrich, M.M.; Giessen-Jung, C.; Borgmann, S.; Classen, A.Y.; Dolf, S.; Grüner, B.; Hanses, F.; Isberner, N.; Köhler, P.; Lanznaster, J.; et al. COVID-19 in cancer patients: Clinical characteristics and outcome-an analysis of the LEOSS registry. *Ann. Hematol.* **2021**, *100*, 383–393. [[CrossRef](#)]
399. Rutten, J.J.S.; van Loon, A.M.; van Kooten, J.; van Buul, L.W.; Joling, K.J.; Smalbrugge, M.; Hertogh, C.M. Clinical suspicion of COVID-19 in nursing home residents: Symptoms and mortality risk factors. *J. Am. Med. Dir. Assoc.* **2020**, *21*, 1791. [[CrossRef](#)]
400. Saand, A.R.; Flores, M.; Kewan, T.; Alqaisi, S.; Alwakeel, M.; Griffiths, L.; Wang, X.; Han, X.; Burton, R.; Al-Jaghbeer, M.J.; et al. Does inpatient hyperglycemia predict a worse outcome in COVID-19 intensive care unit patients? *J. Diabetes* **2021**, *13*, 253–260. [[CrossRef](#)]
401. Sadeghi, A.; Dooghaie, M.A.; Eslami, P.; Pirsalehi, A.; Shojaee, S.; Sanadgol, G.; Jalilian Khave, L.; Vahidi, M.; Asadzadeh Aghdaei, H.; Nazemalhosseini Mojarad, E. The characteristics of cancerous patients infected with COVID-19 in hospital setting. *Acta Biomed.* **2020**, *91*, e2020145.

402. Saeed, O.; Castagna, F.; Agalliu, I.; Xue, X.; Patel, S.R.; Rochlani, Y.; Kataria, R.; Vukelic, S.; Sims, D.B.; Alvarez, C.; et al. Statin use and in-hospital mortality in patients with diabetes mellitus and COVID-19. *J. Am. Heart Assoc.* **2020**, *9*, e018475. [[CrossRef](#)]
403. Saez-Giménez, B.; Berastegui, C.; Barrecheguren, M.; Revilla-López, E.; Los Arcos, I.; Alonso, R.; Aguilar, M.; Mora, V.M.; Otero, I.; Reig, J.P.; et al. COVID-19 in lung transplant recipients: A multicenter study. *Am. J. Transplant.* **2021**, *21*, 1816–1824. [[CrossRef](#)]
404. Saggi, S.J.; Nath, S.; Culas, R.; Hittalae, S.; Burza, A.; Srinivasan, M.; Abdul, R.; Silver, B.; Lora, A.; Ibtida, I.; et al. Early experience with methylprednisolone on SARS-CoV-2 infection in the African American population—A retrospective analysis. *Clin. Med. Insights Circ. Respir. Pulm. Med.* **2020**, *14*, 1179548420980699. [[CrossRef](#)]
405. Saha, A.; Ahsan, M.M.; Quader, M.T.; Naher, S.; Akter, F.; Mehedi, H.M.H.; Ullah Chowdhury, A.A.; Karim, M.H.; Rahman, T.; Parvin, A. Clinical Characteristics and Outcomes of COVID-19 Infected Diabetic Patients Admitted in ICUs of the Southern Region of Bangladesh. *Diabetes Metab. Syndr.* **2021**, *15*, 229–235. [[CrossRef](#)] [[PubMed](#)]
406. Sai, F.; Liu, X.; Li, L.; Ye, Y.; Zhu, C.; Hang, Y.; Huang, C.; Tian, L.; Huang, H.; Xu, X. Clinical characteristics and risk factors for mortality in patients with coronavirus disease 2019 in intensive care unit: A single-center, retrospective, observational study in China. *Ann. Palliat. Med.* **2021**, *10*, 2859–2868. [[CrossRef](#)] [[PubMed](#)]
407. Saifi, E.S.; Giorgi-Pierfranceschi, M.; Salvetti, M.; Maninetti, L.; Cavalli, I.; Muiesan, M.L. Factors associated with survival in older patients affected by COVID-19: A retrospective cohort study. *Arch. Gerontol. Geriatr.* **2021**, *94*, 104349. [[CrossRef](#)] [[PubMed](#)]
408. Salazar, M.R.; González, S.E.; Regairaz, L.; Ferrando, N.S.; González Martínez, V.V.; Carrera Ramos, P.M.; Muñoz, L.; Pesci, S.A.; Vidal, J.M.; Kreplak, N.; et al. Risk factors for COVID-19 mortality: The effect of convalescent plasma administration. *PLoS ONE* **2021**, *16*, e0250386. [[CrossRef](#)]
409. Saleh, N.Y.; Aboelghar, H.M.; Salem, S.S.; Ibrahim, R.A.; Khalil, F.O.; Abdelgawad, A.S.; Mahmoud, A.A. The severity and atypical presentations of COVID-19 infection in pediatrics. *BMC Pediatr.* **2021**, *21*, 144. [[CrossRef](#)]
410. Sands, K.E.; Wenzel, R.P.; McLean, L.E.; Korwek, K.M.; Roach, J.D.; Miller, K.M.; Poland, R.E.; Burgess, L.H.; Jackson, E.S.; Perlin, J.B. Patient characteristics and admitting vital signs associated with coronavirus disease 2019 (COVID-19)-related mortality among patients admitted with noncritical illness. *Infect. Control Hosp. Epidemiol.* **2021**, *42*, 399–405. [[CrossRef](#)]
411. Sano, T.; Kimizuka, Y.; Fujikura, Y.; Hisada, T.; Watanabe, C.; Suematsu, R.; Izumi, K.; Sugiura, H.; Miyata, J.; Shinmoto, H.; et al. COVID-19 in Older Adults: Retrospective Cohort Study in a Tertiary Hospital in Japan. *Geriatr. Gerontol. Int.* **2020**, *20*, 1044–1049. [[CrossRef](#)]
412. Santos, C.S.; Morales, C.M.; Álvarez, E.D.; Castro, C.Á.; Robles, A.L.; Sandoval, T.P. Determinants of COVID-19 disease severity in patients with underlying rheumatic disease. *Clin. Rheumatol.* **2020**, *39*, 2789–2796. [[CrossRef](#)]
413. Santos, M.M.; Lucena, E.E.S.; Lima, K.C.; Brito, A.A.C.; Bay, M.B.; Bonfada, D. Survival and predictors of deaths of patients hospitalised due to COVID-19 from a retrospective and multicentre cohort study in Brazil. *Epidemiol. Infect.* **2020**, *148*, e198. [[CrossRef](#)]
414. Santus, P.; Radovanovic, D.; Saderi, L.; Marino, P.; Cogliati, C.; De Filippis, G.; Rizzi, M.; Franceschi, E.; Pini, S.; Giuliani, F.; et al. Severity of respiratory failure at admission and in-hospital mortality in patients with COVID-19: A prospective observational multicentre study. *BMJ Open* **2020**, *10*, e043651. [[CrossRef](#)]
415. Sapey, E.; Gallier, S.; Mainey, C.; Nightingale, P.; McNulty, D.; Crothers, H.; Evison, F.; Reeves, K.; Pagano, D.; Denniston, A.K.; et al. Ethnicity and risk of death in patients hospitalised for COVID-19 infection in the UK: An observational cohort study in an urban catchment area. *BMJ Open Respir. Res.* **2020**, *7*, e000644. [[CrossRef](#)]
416. Scarfò, L.; Chatzikonstantinou, T.; Rigolin, G.M.; Quaresmini, G.; Motta, M.; Vitale, C.; Garcia-Marco, J.A.; Hernández-Rivas, J.Á.; Mirás, F.; Baile, M.; et al. COVID-19 severity and mortality in patients with chronic lymphocytic leukemia: A joint study by ERIC, the European research initiative on CLL and CLL campus. *Leukemia* **2020**, *34*, 2354–2363. [[CrossRef](#)]
417. Schultze, A.; Walker, A.J.; MacKenna, B.; Morton, C.E.; Bhaskaran, K.; Brown, J.P.; Rentsch, C.T.; Williamson, E.; Drysdale, H.; Croker, R.; et al. Risk of COVID-19-related death among patients with chronic obstructive pulmonary disease or asthma prescribed inhaled corticosteroids: An observational cohort study using the OpenSAFELY platform. *Lancet Respir. Med.* **2020**, *8*, 1106–1120. [[CrossRef](#)]
418. Seo, J.; Son, M. Update on association between exposure to renin-angiotensin-aldosterone system inhibitors and coronavirus disease 2019 in South Korea. *Korean J. Intern. Med.* **2021**, *36*, S114–S122. [[CrossRef](#)]
419. Shah, G.L.; DeWolf, S.; Lee, Y.J.; Tamari, R.; Dahi, P.B.; Lavery, J.A.; Ruiz, J.; Devlin, S.M.; Cho, C.; Peled, J.U.; et al. Favorable outcomes of COVID-19 in recipients of hematopoietic cell transplantation. *J. Clin. Investig.* **2020**, *130*, 6656–6667. [[CrossRef](#)]
420. Shahriarirad, R.; Khodamoradi, Z.; Erfani, A.; Hosseinpour, H.; Ranjbar, K.; Emami, Y.; Mirahmadizadeh, A.; Lotfi, M.; Shirazi Yeganeh, B.; Nejad, A.D.; et al. Epidemiological and clinical features of 2019 novel coronavirus diseases (COVID-19) in the south of Iran. *BMC Infect. Dis.* **2020**, *20*, 427. [[CrossRef](#)]
421. Shao, S.; Zhao, Z.; Wang, F.; Chang, D.; Liu, Y.; Liu, S.; Xu, X.; Li, X.; Jiang, C.; Tang, Z. Risk factors associated with disease aggravation among 126 hospitalized patients with COVID-19 in different places in China: A retrospective observational study. *Medicine* **2020**, *99*, e22971. [[CrossRef](#)]
422. Sharifpour, M.; Rangaraju, S.; Liu, M.; Alabyad, D.; Nahab, F.B.; Creel-Bulos, C.M.; Jabaley, C.S.; Emory COVID-19 Quality & Clinical Research Collaborative. C-reactive protein as a prognostic indicator in hospitalized patients with COVID-19. *PLoS ONE* **2020**, *15*, e0242400. [[CrossRef](#)]
423. Sharma, A. Estimating older adult mortality from COVID-19. *J. Gerontol. B Psychol. Sci. Soc. Sci.* **2021**, *76*, e68–e74. [[CrossRef](#)]

424. Shi, J.; Li, Y.; Zhou, X.; Zhang, Q.; Ye, X.; Wu, Z.; Jiang, X.; Yu, H.; Shao, L.; Ai, J.W.; et al. Lactate dehydrogenase and susceptibility to deterioration of mild COVID-19 patients: A multicenter nested case-control study. *BMC Med.* **2020**, *18*, 168. [[CrossRef](#)]
425. Shi, M.; Chen, L.; Yang, Y.; Zhang, J.; Xu, J.; Xu, G.; Li, B.; Yin, Y. Analysis of clinical features and outcomes of 161 patients with severe and critical COVID-19: A multicenter descriptive study. *J. Clin. Lab. Anal.* **2020**, *34*, e23415. [[CrossRef](#)]
426. Shi, Y.; Yu, X.; Zhao, H.; Wang, H.; Zhao, R.; Sheng, J. Host susceptibility to severe COVID-19 and establishment of a host risk score: Findings of 487 cases outside Wuhan. *Crit. Care* **2020**, *24*, 108. [[CrossRef](#)]
427. Shields, A.M.; Burns, S.O.; Savic, S.; Richter, A.G. COVID-19 in patients with primary and secondary immunodeficiency: The United Kingdom Experience. *J. Allergy. Clin. Immunol.* **2021**, *147*, 870–875.e1. [[CrossRef](#)]
428. Siepmann, T.; Sedghi, A.; Barlinn, J.; de With, K.; Mirow, L.; Wolz, M.; Gruenewald, T.; Helbig, S.; Schroettner, P.; Winzer, S.; et al. Association of history of cerebrovascular disease with severity of COVID-19. *J. Neurol.* **2021**, *268*, 773–784. [[CrossRef](#)]
429. Simonnet, A.; Chetboun, M.; Poissy, J.; Raverdy, V.; Noulette, J.; Duhamel, A.; Labreuche, J.; Mathieu, D.; Pattou, F.; Jourdain, M.; et al. High prevalence of obesity in severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) requiring invasive mechanical ventilation. *Obesity* **2020**, *28*, 1994. [[CrossRef](#)]
430. Singh, B.M.; Bateman, J.; Viswanath, A.; Klaire, V.; Mahmud, S.; Nevill, A.; Dunmore, S.J. Risk of COVID-19 hospital admission and COVID-19 mortality during the first COVID-19 wave with a special emphasis on ethnic minorities: An observational study of a single, deprived, multiethnic UK health economy. *BMJ Open* **2021**, *11*, e046556. [[PubMed](#)]
431. Singh, S.; Bilal, M.; Pakhchanian, H.; Raiker, R.; Kochhar, G.S.; Thompson, C.C. Impact of obesity on outcomes of patients with coronavirus disease 2019 in the United States: A multicenter electronic health records network study. *Gastroenterology* **2020**, *159*, 2221–2225.e6. [[CrossRef](#)] [[PubMed](#)]
432. Singh, S.; Khan, A.; Chowdhry, M.; Bilal, M.; Kochhar, G.S.; Clarke, K. Risk of severe coronavirus disease 2019 in patients with inflammatory bowel disease in the united states: A multicenter research network study. *Gastroenterology* **2020**, *159*, 1575–1578.e4. [[CrossRef](#)] [[PubMed](#)]
433. Singh, S.; Khan, A. Clinical characteristics and outcomes of coronavirus disease 2019 among patients with preexisting liver disease in the United States: A multicenter research network study. *Gastroenterology* **2020**, *159*, 768–771.e3. [[CrossRef](#)]
434. Smati, S.; Tramunt, B.; Wargny, M.; Caussy, C.; Gaborit, B.; Vatier, C.; Vergès, B.; Ancelle, D.; Amadou, C.; Bachir, L.A.; et al. Relationship between obesity and severe COVID-19 outcomes in patients with type 2 diabetes: Results from the CORONADO study. *Diabetes Obes. Metab.* **2021**, *23*, 391–403. [[CrossRef](#)]
435. Smith, A.A.; Fridling, J.; Ibrahim, D.; Porter, P.S., Jr. Identifying patients at greatest risk of mortality due to COVID-19: A New England perspective. *West J. Emerg. Med.* **2020**, *21*, 785–789.
436. Smith, M.; Lara, O.D.; O’Cearbhaill, R.; Knisely, A.; McEachron, J.; Gabor, L.; Carr, C.; Blank, S.; Prasad-Hayes, M.; Frey, M.; et al. Inflammatory markers in gynecologic oncology patients hospitalized with COVID-19 infection. *Gynecol. Oncol.* **2020**, *159*, 618–622. [[CrossRef](#)]
437. Snipelisky, D.; Johnson, R.; Prasad, R.; Lakhani, B.; Ellington, J. Characteristics and outcomes based on perceived illness severity in SARS-CoV-2. *South Med. J.* **2020**, *113*, 618–622. [[CrossRef](#)]
438. Soh, T.V.; Dzawani, M.; Noorlina, N.; Nik, F.; Norazmi, A. Clinical Characteristics of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2) Patients in Hospital Tengku Ampuan Afzan. *Med. J. Malays.* **2020**, *75*, 479–484.
439. Soleimani, A.; Kazemian, S.; Karbalai Saleh, S.; Aminorroaya, A.; Shajari, Z.; Hadadi, A.; Talebpour, M.; Sadeghian, H.; Payandemehr, P.; Sotoodehnia, M.; et al. Effects of angiotensin receptor blockers (ARBs) on in-hospital outcomes of patients with hypertension and confirmed or clinically suspected COVID-19. *Am. J. Hypertens.* **2020**, *33*, 1102–1111. [[CrossRef](#)]
440. Song, J.; Hu, W.; Yu, Y.; Shen, X.; Wang, Y.; Yan, J.; Yang, X.; Gong, S.; Wang, M. A comparison of clinical characteristics and outcomes in elderly and younger patients with COVID-19. *Med. Sci. Monit.* **2020**, *26*, e925047. [[CrossRef](#)]
441. Song, J.W.; Zhang, C.; Fan, X.; Meng, F.P.; Xu, Z.; Xia, P.; Cao, W.J.; Yang, T.; Dai, X.P.; Wang, S.Y.; et al. Immunological and inflammatory profiles in mild and severe cases of COVID-19. *Nat. Commun.* **2020**, *11*, 3410. [[CrossRef](#)]
442. Stachura, T.; Celejewski-Wójcik, N.; Polok, K.; Górka, K.; Lichołai, S.; Wójcik, K.; Krawczyk, J.; Kozłowska, A.; Przybyszowski, M.; Włoch, T.; et al. A clinical profile and factors associated with severity of the disease among polish patients hospitalized due to COVID-19—An observational study. *Adv. Respir. Med.* **2021**, *89*, 124–134. [[CrossRef](#)]
443. Stall, N.M.; Wu, W.; Lapointe-Shaw, L.; Fisman, D.N.; Giannakeas, V.; Hillmer, M.P.; Rochon, P.A. Sex- and age-specific differences in COVID-19 testing, cases, and outcomes: A population-wide study in Ontario, Canada. *J. Am. Geriatr. Soc.* **2020**, *68*, 2188–2191. [[CrossRef](#)]
444. Stefan, G.; Mehedinti, A.M.; Andreiana, I.; Zugravu, A.D.; Cinca, S.; Busuioc, R.; Miler, I.; Stancu, S.; Petrescu, L.; Dimitriu, I.; et al. Clinical features and outcome of maintenance hemodialysis patients with COVID-19 from a tertiary nephrology care center in Romania. *Ren. Fail.* **2021**, *43*, 49–57. [[CrossRef](#)]
445. Steinberg, E.; Wright, E.; Kushner, B. In young adults with COVID-19, obesity is associated with adverse outcomes. *West J. Emerg. Med.* **2020**, *21*, 752–755. [[CrossRef](#)]
446. Suleyman, G.; Fadel, R.A.; Malette, K.M.; Hammond, C.; Abdulla, H.; Entz, A.; Demertzis, Z.; Hanna, Z.; Failla, A.; Dagher, C.; et al. Clinical characteristics and morbidity associated with coronavirus disease 2019 in a series of patients in metropolitan detroit. *JAMA Netw. Open* **2020**, *3*, e2012270. [[CrossRef](#)]
447. Sun, H.; Ning, R.; Tao, Y.; Yu, C.; Deng, X.; Zhao, C.; Meng, S.; Tang, F.; Xu, D. Risk factors for mortality in 244 older adults with COVID-19 in Wuhan, China: A retrospective study. *J. Am. Geriatr. Soc.* **2020**, *68*, E19–E23. [[CrossRef](#)]

448. Sun, L.; Shen, L.; Fan, J.; Gu, F.; Hu, M.; An, Y.; Zhou, Q.; Fan, H.; Bi, J. Clinical Features of Patients with Coronavirus Disease 2019 (COVID-19) from a Designated Hospital in Beijing, China. *J. Med. Virol.* **2020**, *92*, 2055–2066. [[CrossRef](#)]
449. Sun, S.; Cai, X.; Wang, H.; He, G.; Lin, Y.; Lu, B.; Chen, C.; Pan, Y.; Hu, X. Abnormalities of peripheral blood system in patients with COVID-19 in Wenzhou, China. *Clin. Chim. Acta* **2020**, *507*, 174–180.
450. Suresh, S.; Siddiqui, M.; Abu Ghanimeh, M.; Jou, J.; Simmer, S.; Mendiratta, V.; Russell, S.; Al-Shammari, M.; Chatfield, A.; Alsheik, E.; et al. Association of obesity with illness severity in hospitalized patients with COVID-19: A retrospective cohort study. *Obes. Res. Clin. Pract.* **2021**, *15*, 172–176. [[CrossRef](#)]
451. Swann, O.V.; Holden, K.A.; Turtle, L.; Pollock, L.; Fairfield, C.J.; Drake, T.M.; Seth, S.; Egan, C.; Hardwick, H.E.; Halpin, S.; et al. Clinical characteristics of children and young people admitted to hospital with COVID-19 in United Kingdom: Prospective multicentre observational cohort study. *BMJ* **2020**, *370*, m3249. [[CrossRef](#)]
452. Szymanski, J.; Mohrmann, L.; Carter, J.; Nelson, R.; Chekuri, S.; Assa, A.; Spund, B.; Reyes-Gil, M.; Uehlinger, J.; Baron, S.; et al. ABO blood type association with SARS-CoV-2 infection mortality: A single-center population in New York City. *Transfusion* **2021**, *61*, 1064–1070. [[CrossRef](#)]
453. Talavera, B.; García-Azorín, D.; Martínez-Pías, E.; Trigo, J.; Hernández-Pérez, I.; Valle-Peñacoba, G.; Simón-Campo, P.; de Lera, M.; Chavarría-Miranda, A.; López-Sanz, C.; et al. Anosmia is associated with lower in-hospital mortality in COVID-19. *J. Neurol. Sci.* **2020**, *419*, 117163. [[CrossRef](#)] [[PubMed](#)]
454. Tang, N.; Bai, H.; Chen, X.; Gong, J.; Li, D.; Sun, Z. Anticoagulant treatment is associated with decreased mortality in severe coronavirus disease 2019 patients with coagulopathy. *J. Thromb. Haemost.* **2020**, *18*, 1094–1099. [[CrossRef](#)] [[PubMed](#)]
455. Tang, O.; Bigelow, B.F.; Sheikh, F.; Peters, M.; Zenilman, J.M.; Bennett, R.; Katz, M.J. Outcomes of nursing home COVID-19 patients by initial symptoms and comorbidity: Results of universal testing of 1970 residents. *J. Am. Med. Dir. Assoc.* **2020**, *21*, 1767. [[CrossRef](#)] [[PubMed](#)]
456. Tao, Z.; Xu, J.; Chen, W.; Yang, Z.; Xu, X.; Liu, L.; Chen, R.; Xie, J.; Liu, M.; Wu, J.; et al. Anemia is associated with severe illness in COVID-19: A retrospective cohort study. *J. Med. Virol.* **2021**, *93*, 1478–1488. [[CrossRef](#)]
457. Tatum, D.; Taghavi, S.; Houghton, A.; Stover, J.; Toraih, E.; Duchesne, J. Neutrophil-to-lymphocyte ratio and outcomes in Louisiana COVID-19 patients. *Shock* **2020**, *54*, 652–658. [[CrossRef](#)]
458. Tedeschi, S.; Giannella, M.; Bartoletti, M.; Trapani, F.; Tadolini, M.; Borghi, C.; Viale, P. Clinical impact of renin-angiotensin system inhibitors on in-hospital mortality of patients with hypertension hospitalized for COVID-19. *Clin. Infect. Dis.* **2020**, *71*, 899–901. [[CrossRef](#)]
459. Tehrani, S.; Killander, A.; Astrand, P.; Jakobsson, J.; Gille-Johnson, P. Risk factors for death in adult COVID-19 patients: Frailty predicts fatal outcome in older patients. *Int. J. Infect. Dis.* **2021**, *102*, 415–421. [[CrossRef](#)]
460. Tejpal, A.; Gianos, E.; Cerise, J.; Hirsch, J.S.; Rosen, S.; Kohn, N.; Lesser, M.; Weinberg, C.; Majure, D.; Satapathy, S.K.; et al. Sex-based differences in COVID-19 outcomes. *J. Women's Health* **2021**, *30*, 492–501. [[CrossRef](#)]
461. Telle, K.E.; Grøslund, M.; Helgeland, J.; Håberg, S.E. Factors associated with hospitalization, invasive mechanical ventilation treatment and death among all confirmed COVID-19 cases in Norway: Prospective cohort study. *Scand. J. Public Health* **2021**, *49*, 41–47. [[CrossRef](#)]
462. Temkin-Greener, H.; Guo, W.; Mao, Y.; Cai, X.; Li, Y. COVID-19 pandemic in assisted living communities: Results from seven states. *J. Am. Geriatr. Soc.* **2020**, *68*, 2727–2734. [[CrossRef](#)]
463. Tesoriero, J.M.; Swain, C.E.; Pierce, J.L.; Zamboni, L.; Wu, M.; Holtgrave, D.R.; Gonzalez, C.J.; Udo, T.; Morne, J.E.; Hart-Malloy, R.; et al. COVID-19 outcomes among persons living with or without diagnosed HIV infection in New York state. *JAMA Netw. Open* **2021**, *4*, e2037069. [[CrossRef](#)]
464. Tessitore, E.; Carballo, D.; Poncet, A.; Perrin, N.; Follonier, C.; Assouline, B.; Carballo, S.; Girardin, F.; Mach, F. Mortality and high risk of major adverse events in patients with COVID-19 and history of cardiovascular disease. *Open Heart* **2021**, *8*, e001526. [[CrossRef](#)]
465. Thomson, R.J.; Hunter, J.; Dutton, J.; Schneider, J.; Khosravi, M.; Casement, A.; Dhadwal, K.; Martin, D. Clinical characteristics and outcomes of critically ill patients with COVID-19 admitted to an intensive care unit in London: A prospective observational cohort study. *PLoS ONE* **2020**, *15*, e0243710. [[CrossRef](#)]
466. Tian, J.; Yuan, X.; Xiao, J.; Zhong, Q.; Yang, C.; Liu, B.; Cai, Y.; Lu, Z.; Wang, J.; Wang, Y.; et al. Clinical characteristics and risk factors associated with COVID-19 disease severity in patients with cancer in Wuhan, China: A multicentre, retrospective, cohort study. *Lancet Oncol.* **2020**, *21*, 893–903. [[CrossRef](#)]
467. Tian, S.; Hu, N.; Lou, J.; Chen, K.; Kang, X.; Xiang, Z.; Chen, H.; Wang, D.; Liu, N.; Liu, D.; et al. Characteristics of COVID-19 infection in Beijing. *J. Infect.* **2020**, *80*, 401–406. [[CrossRef](#)]
468. To, K.K.; Tsang, O.T.; Leung, W.S.; Tam, A.R.; Wu, T.C.; Lung, D.C.; Yip, C.C.; Cai, J.P.; Chan, J.M.; Chik, T.S.; et al. Temporal profiles of viral load in posterior oropharyngeal saliva samples and serum antibody responses during infection by SARS-CoV-2: An observational cohort study. *Lancet Infect. Dis.* **2020**, *20*, 565–574. [[CrossRef](#)]
469. Tobolowsky, F.A.; Bardossy, A.C.; Currie, D.W.; Schwartz, N.G.; Zacks, R.L.T.; Chow, E.J.; Dyal, J.W.; Ali, H.; Kay, M.; Duchin, J.S.; et al. Signs, symptoms, and comorbidities associated with onset and prognosis of COVID-19 in a nursing home. *J. Am. Med. Dir. Assoc.* **2021**, *22*, 498–503. [[CrossRef](#)]
470. Toh, D.J.; Rowe, E.; Nelson, R.; O'Connell, A.; Lim, K.; Fielke, L.; He, J.; Faunt, J. Outcomes for the First Wave of Hospitalised Patients with COVID-19 in the South Australian Context: A Retrospective Audit. *Intern. Med. J.* **2021**, *51*, 189–198. [[CrossRef](#)]

471. Tomasoni, D.; Inciardi, R.M.; Lombardi, C.M.; Tedino, C.; Agostoni, P.; Ameri, P.; Barbieri, L.; Bellasi, A.; Camporotondo, R.; Canale, C.; et al. Impact of heart failure on the clinical course and outcomes of patients hospitalized for COVID-19. Results of the cardio-COVID-Italy multicentre study. *Eur. J. Heart Fail.* **2020**, *22*, 2238–2247. [[CrossRef](#)]
472. Tong, M.; Jiang, Y.; Xia, D.; Xiong, Y.; Zheng, Q.; Chen, F.; Zou, L.; Xiao, W.; Zhu, Y. Elevated expression of serum endothelial cell adhesion molecules in COVID-19 patients. *J. Infect. Dis.* **2020**, *222*, 894–898. [[CrossRef](#)]
473. Trecarichi, E.M.; Mazzitelli, M.; Serapide, F.; Pelle, M.C.; Tassone, B.; Arrighi, E.; Perri, G.; Fusco, P.; Scaglione, V.; Davoli, C.; et al. Clinical characteristics and predictors of mortality associated with COVID-19 in elderly patients from a long-term care facility. *Sci. Rep.* **2020**, *10*, 20834. [[CrossRef](#)]
474. Trifan, G.; Goldenberg, F.D.; Caprio, F.Z.; Biller, J.; Schneck, M.; Khaja, A.; Terna, T.; Brorson, J.; Lazaridis, C.; Bulwa, Z.; et al. Characteristics of a diverse cohort of stroke patients with SARS-CoV-2 and outcome by sex. *J. Stroke Cerebrovasc. Dis.* **2020**, *29*, 105314. [[CrossRef](#)]
475. Tsantes, A.E.; Frantzeskaki, F.; Tsantes, A.G.; Rapti, E.; Rizos, M.; Kokoris, S.I.; Paramythiotou, E.; Katsadiotis, G.; Karali, V.; Flevari, A.; et al. The haemostatic profile in critically ill COVID-19 patients receiving therapeutic anticoagulant therapy: An observational study. *Medicine* **2020**, *99*, e23365. [[CrossRef](#)] [[PubMed](#)]
476. Tschopp, J.; L'Huillier, A.G.; Mombelli, M.; Mueller, N.J.; Khanna, N.; Garzoni, C.; Meloni, D.; Papadimitriou-Olivgeris, M.; Neofytos, D.; Hirsch, H.H.; et al. First experience of SARS-CoV-2 infections in solid organ transplant recipients in the swiss transplant cohort study. *Am. J. Transplant.* **2020**, *20*, 2876–2882. [[CrossRef](#)] [[PubMed](#)]
477. Tu, Y.; Yang, P.; Zhou, Y.; Wen, X.; Li, Q.; Zhou, J.; Wang, J.; Hu, J.; He, N.; Wang, K.; et al. Risk factors for mortality of critically ill patients with COVID-19 receiving invasive ventilation. *Int. J. Med. Sci.* **2021**, *18*, 1198–1206. [[CrossRef](#)] [[PubMed](#)]
478. Turgay, Y.Ö.; Kaya, Ş. The atherogenic index of plasma as a predictor of mortality in patients with COVID-19. *Heart Lung* **2021**, *50*, 329–333. [[CrossRef](#)]
479. Turgutalp, K.; Ozturk, S.; Arici, M.; Eren, N.; Gorgulu, N.; Islam, M.; Uzun, S.; Sakaci, T.; Aydin, Z.; Sengul, E.; et al. Determinants of mortality in a large group of hemodialysis patients hospitalized for COVID-19. *BMC Nephrol.* **2021**, *22*, 29. [[CrossRef](#)]
480. UIHaq, Z.; Shahzad, M.; Khattak, M.I.; Fazid, S.; Ullah, N.; Shireen, A.; UIhaq, N.; Izhar, A.; Farooq, U.; Darwesh, N.M.; et al. Clinical Characteristics, Mortality and Associated risk Factors in COVID-19 Patients Reported in Ten Major hospitals of Khyber Pakhtunkhwa, Pakistan. *J. Ayub. Med. Coll. Abbottabad* **2020**, *32*, S633–S639.
481. Vallecillo, G.; Anguera, M.; Martin, N.; Robles, M.J. Effectiveness of an acute care for elders unit at a long-term care facility for frail older patients with COVID-19. *Geriatr. Nurs.* **2021**, *42*, 544–547. [[CrossRef](#)]
482. Vanhems, P.; Gustin, M.P.; Elias, C.; Henaff, L.; Dananché, C.; Grisi, B.; Marion, E.; Khanafer, N.; Hilliquin, D.; Gardes, S.; et al. Factors associated with admission to intensive care units in COVID-19 patients in Lyon-France. *PLoS ONE* **2021**, *16*, e0243709. [[CrossRef](#)]
483. Venturini, S.; Orso, D.; Cugini, F.; Crapis, M.; Fossati, S.; Callegari, A.; Pellis, T.; Tonizzo, M.; Grembale, A.; Rosso, A.; et al. Classification and analysis of outcome predictors in non-critically ill COVID-19 patients. *Intern. Med. J.* **2021**, *51*, 506–514. [[CrossRef](#)]
484. Vera-Zertuche, J.M.; Mancilla-Galindo, J.; Tlalpa-Prisco, M.; Aguilar-Alonso, P.; Aguirre-García, M.M.; Segura-Badilla, O.; Lazcano-Hernández, M.; Rocha-González, H.I.; Navarro-Cruz, A.R.; Kammar-García, A.; et al. Obesity is a strong risk factor for short-term mortality and adverse outcomes in mexican patients with COVID-19: A national observational study. *Epidemiol. Infect.* **2021**, *149*, e109. [[CrossRef](#)]
485. Verity, R.; Okell, L.C.; Dorigatti, I.; Winskill, P.; Whittaker, C.; Imai, N.; Cuomo-Dannenburg, G.; Thompson, H.; Walker, P.G.T.; Fu, H.; et al. Estimates of the severity of coronavirus disease 2019: A model-based analysis. *Lancet Infect. Dis.* **2020**, *20*, 669–677. [[CrossRef](#)]
486. Verma, S.; Lumba, R.; Dapul, H.M.; Gold-von Simson, G.; Phoon, C.K.; Lighter, J.L.; Farkas, J.S.; Vinci, A.; Noor, A.; Raabe, V.N.; et al. Characteristics of hospitalized children with SARS-CoV-2 in the New York City metropolitan area. *Hosp. Pediatr.* **2021**, *11*, 71–78. [[CrossRef](#)]
487. Viana-Llamas, M.C.; Arroyo-Espliguero, R.; Silva-Obregón, J.A.; Uribe-Heredia, G.; Núñez-Gil, I.; García-Magallón, B.; Torán-Martínez, C.G.; Castillo-Sandoval, A.; Díaz-Caraballo, E.; Rodríguez-Guinea, I.; et al. Hypoalbuminemia on admission in COVID-19 infection: An early predictor of mortality and adverse events. A retrospective observational study. *Med. Clin.* **2021**, *156*, 428–436. [[CrossRef](#)]
488. Villa, L.; Krüger, T.; Seikrit, C.; Mühlfeld, A.S.; Kunter, U.; Werner, C.; Kleines, M.; Schulze-Hagen, M.; Dreher, M.; Kersten, A.; et al. Time on previous renal replacement therapy is associated with worse outcomes of COVID-19 in a regional cohort of kidney transplant and dialysis patients. *Medicine* **2021**, *100*, e24893. [[CrossRef](#)]
489. Vizcarra, P.; Pérez-Eliás, M.J.; Quereda, C.; Moreno, A.; Vivancos, M.J.; Dronda, F.; Casado, J.L.; COVID-19 ID Team. Description of COVID-19 in HIV-infected individuals: A single-centre, prospective cohort. *Lancet HIV* **2020**, *7*, e554–e564. [[CrossRef](#)]
490. Vrillon, A.; Mhanna, E.; Aveneau, C.; Lebozec, M.; Grosset, L.; Nankam, D.; Albuquerque, F.; Razou Feroldi, R.; Maakaroun, B.; Pissareva, I.; et al. COVID-19 in adults with dementia: Clinical features and risk factors of mortality—a clinical cohort study on 125 patients. *Alzheimers Res. Ther.* **2021**, *13*, 77. [[CrossRef](#)]
491. Vrotsou, K.; Rotaeche, R.; Mateo-Abad, M.; Machón, M.; Vergara, I. Variables associated with COVID-19 severity: An observational study of non-paediatric confirmed cases from the general population of the Basque country, Spain. *BMJ Open* **2021**, *11*, e049066. [[CrossRef](#)]

492. Vu, C.A.; DeRonde, K.J.; Vega, A.D.; Maxam, M.; Holt, G.; Natori, Y.; Zamora, J.G.; Salazar, V.; Boatwright, R.; Morris, S.R.; et al. Effects of tocilizumab in COVID-19 patients: A cohort study. *BMC Infect. Dis.* **2020**, *20*, 964. [[CrossRef](#)]
493. Wan, S.; Xiang, Y.; Fang, W.; Zheng, Y.; Li, B.; Hu, Y.; Lang, C.; Huang, D.; Sun, Q.; Xiong, Y.; et al. Clinical features and treatment of COVID-19 patients in northeast Chongqing. *J. Med. Virol.* **2020**, *92*, 797–806. [[CrossRef](#)]
494. Wang, D.; Yin, Y.; Hu, C.; Liu, X.; Zhang, X.; Zhou, S.; Jian, M.; Xu, H.; Prowle, J.; Hu, B.; et al. Clinical course and outcome of 107 patients infected with the novel coronavirus, SARS-CoV-2, discharged from two hospitals in Wuhan, China. *Crit. Care* **2020**, *24*, 188. [[CrossRef](#)]
495. Wang, F.; Cao, J.; Yu, Y.; Ding, J.; Eshak, E.S.; Liu, K.; Mubarik, S.; Shi, F.; Wen, H.; Zeng, Z.; et al. Epidemiological characteristics of patients with severe COVID-19 infection in Wuhan, China: Evidence from a retrospective observational study. *Int. J. Epidemiol.* **2021**, *49*, 1940–1950. [[CrossRef](#)] [[PubMed](#)]
496. Wang, F.; Qu, M.; Zhou, X.; Zhao, K.; Lai, C.; Tang, Q.; Xian, W.; Chen, R.; Li, X.; Li, Z.; et al. The timeline and risk factors of clinical progression of COVID-19 in Shenzhen, China. *J. Transl. Med.* **2020**, *18*, 270. [[CrossRef](#)] [[PubMed](#)]
497. Wang, G.; Luo, F.M.; Liu, D.; Liu, J.S.; Wang, Y.; Chen, H.; Tian, P.W.; Fan, T.; Tang, L.; Yu, H.; et al. Differences in the clinical characteristics and outcomes of COVID-19 patients in the epicenter and peripheral areas of the pandemic from China: A retrospective, large-sample, comparative analysis. *BMC Infect. Dis.* **2021**, *21*, 206. [[CrossRef](#)] [[PubMed](#)]
498. Wang, G.; Zhang, Q.; Zhao, X.; Dong, H.; Wu, F.; Yu, B.; Lv, J.; Zhang, S.; Wu, G.; et al. Low high-density lipoprotein level is correlated with the severity of COVID-19 patients: An observational study. *Lipids Health Dis.* **2020**, *19*, 204. [[CrossRef](#)]
499. Wang, J.; Guo, S.; Zhang, Y.; Gao, K.; Zuo, J.; Tan, N.; Du, K.; Ma, Y.; Hou, Y.; Li, Q.; et al. Clinical features and risk factors for severe inpatients with COVID-19: A retrospective study in China. *PLoS ONE* **2020**, *15*, e0244125. [[CrossRef](#)]
500. Wang, J.; Xu, Z.; Wang, J.; Feng, R.; An, Y.; Ao, W.; Gao, Y.; Wang, X.; Xie, Z. CT characteristics of patients infected with 2019 novel coronavirus: Association with clinical type. *Clin. Radiol.* **2020**, *75*, 408–414. [[CrossRef](#)]
501. Wang, J.; Zhang, H.; Qiao, R.; Ge, Q.; Zhang, S.; Zhao, Z.; Tian, C.; Ma, Q.; Shen, N. Thrombo-inflammatory features predicting mortality in patients with COVID-19: The FAD-85 score. *J. Int. Med. Res.* **2020**, *48*, 300060520955037. [[CrossRef](#)]
502. Wang, J.; Zhu, L.; Xue, L.; Liu, L.; Yan, X.; Yan, X.; Huang, S.; Zhang, B.; Xu, T.; Li, C.; et al. Risk factors of liver injury in patients with coronavirus disease 2019 in Jiangsu, China: A retrospective, multi-center study. *J. Med. Virol.* **2021**, *93*, 3305–3311. [[CrossRef](#)]
503. Wang, L.; He, W.; Yu, X.; Hu, D.; Bao, M.; Liu, H.; Zhou, J.; Jiang, H. Coronavirus disease 2019 in elderly patients: Characteristics and prognostic factors based on 4-week follow-up. *J. Infect.* **2020**, *80*, 639–645. [[CrossRef](#)]
504. Wang, P.; Sha, J.; Meng, M.; Wang, C.; Yao, Q.; Zhang, Z.; Sun, W.; Wang, X.; Qie, G.; Bai, X.; et al. Risk factors for severe COVID-19 in middle-aged patients without comorbidities: A multicentre retrospective study. *J. Transl. Med.* **2020**, *18*, 461. [[CrossRef](#)]
505. Wang, S.; Chen, Z.; Lin, Y.; Lin, L.; Lin, Q.; Fang, S.; Shi, Y.; Zhuang, X.; Ye, Y.; Wang, T.; et al. Clinical characteristics of 199 discharged patients with COVID-19 in Fujian province: A multicenter retrospective study between 22 January and 27 February 2020. *PLoS ONE* **2020**, *15*, e0242307. [[CrossRef](#)]
506. Wang, S.; Ma, P.; Zhang, S.; Song, S.; Wang, Z.; Ma, Y.; Xu, J.; Wu, F.; Duan, L.; Yin, Z.; et al. Fasting blood glucose at admission is an independent predictor for 28-day mortality in patients with COVID-19 without previous diagnosis of diabetes: A multi-centre retrospective study. *Diabetologia* **2020**, *63*, 2102–2111. [[CrossRef](#)]
507. Wang, T.; Tang, C.; Chen, R.; Ruan, H.; Liang, W.; Guan, W.; Sang, L.; Tang, R.; Zhong, N.; Li, S. Clinical features of coronavirus disease 2019 patients with mechanical ventilation: A nationwide study in China. *Crit. Care Med.* **2020**, *48*, e809–e812. [[CrossRef](#)]
508. Wang, W.; Chen, L.; He, Q.; Wang, M.; Liu, M.; Deng, T.; Deng, X.; Yang, J.; Jiang, O.; Li, R.; et al. Clinical characteristics of inpatients with coronavirus disease 2019 (COVID-19) in Sichuan province. *BMC Infect. Dis.* **2021**, *21*, 155. [[CrossRef](#)]
509. Wang, W.; Shen, M.; Tao, Y.; Fairley, C.K.; Zhong, Q.; Li, Z.; Chen, H.; Ong, J.J.; Zhang, D.; Zhang, K.; et al. Elevated glucose level leads to rapid COVID-19 progression and high fatality. *BMC Pulm. Med.* **2021**, *21*, 64. [[CrossRef](#)]
510. Wang, X.; Fang, J.; Zhu, Y.; Chen, L.; Ding, F.; Zhou, R.; Ge, L.; Wang, F.; Chen, Q.; Zhang, Y.; et al. Clinical characteristics of non-critically ill patients with novel coronavirus infection (COVID-19) in a Fangcang hospital. *Clin. Microbiol. Infect.* **2020**, *26*, 1063–1068. [[CrossRef](#)]
511. Wang, Y.; Luo, H.; Liu, S.; Hao, T.; Mortimer, K.; Yang, Y.; Wang, D.; Ju, S. Respiratory failure among patients with COVID-19 in Jiangsu province, China: A multicentre retrospective cohort study. *Epidemiol. Infect.* **2021**, *149*, e31. [[CrossRef](#)]
512. Wang, Y.; Shu, H.; Liu, H.; Li, X.; Zhou, X.; Zou, X.; Pan, S.; Xu, J.; Xu, D.; Zhao, X.; et al. The peak levels of highly sensitive troponin I predicts in-hospital mortality in COVID-19 patients with cardiac injury: A retrospective study. *Eur. Heart J. Acute Cardiovasc. Care* **2021**, *10*, 6–15. [[CrossRef](#)]
513. Wang, Y.; Yao, S.; Liu, X.; Cao, Y.; Wang, Y.; Xie, M. Risk factors of coronavirus disease 2019-related mortality and optimal treatment regimens: A retrospective study. *Med. Sci. Monit.* **2021**, *27*, e926751. [[CrossRef](#)]
514. Wang, Y.; Zhou, Y.; Yang, Z.; Xia, D.; Hu, Y.; Geng, S. Clinical characteristics of patients with severe pneumonia caused by the SARS-CoV-2 in Wuhan, China. *Respiration* **2020**, *99*, 649–657. [[CrossRef](#)]
515. Wang, Z.; Ye, D.; Wang, M.; Zhao, M.; Li, D.; Ye, J.; Liu, J.; Xu, Y.; Zhang, J.; Pan, W.; et al. Clinical features of COVID-19 patients with different outcomes in Wuhan: A retrospective observational study. *Biomed. Res. Int.* **2020**, *2020*, 2138387. [[CrossRef](#)]
516. Wang, Z.; Zheutlin, A.; Kao, Y.H.; Ayers, K.; Gross, S.; Kovatch, P.; Nirenberg, S.; Charney, A.; Nadkarni, G.; De Freitas, J.K.; et al. Hospitalised COVID-19 patients of the mount sinai health system: A retrospective observational study using the electronic medical records. *BMJ Open* **2020**, *10*, e040441. [[CrossRef](#)]

517. Wargny, M.; Potier, L.; Gourdy, P.; Pichelin, M.; Amadou, C.; Benhamou, P.Y.; Bonnet, J.B.; Bordier, L.; Bourron, O.; Chaumeil, C.; et al. Predictors of hospital discharge and mortality in patients with diabetes and COVID-19: Updated results from the nationwide CORONADO study. *Diabetologia* **2021**, *64*, 778–794. [[CrossRef](#)]
518. Webb, G.J.; Marjot, T.; Cook, J.A.; Aloman, C.; Armstrong, M.J.; Brenner, E.J.; Catana, M.A.; Cargill, T.; Dhanasekaran, R.; García-Juárez, I.; et al. Outcomes following SARS-CoV-2 infection in liver transplant recipients: An international registry study. *Lancet Gastroenterol. Hepatol.* **2020**, *5*, 1008–1016. [[CrossRef](#)]
519. Wei, C.; Liu, Y.; Liu, Y.; Zhang, K.; Su, D.; Zhong, M.; Meng, X. Clinical characteristics and manifestations in older patients with COVID-19. *BMC Geriatr.* **2020**, *20*, 395. [[CrossRef](#)]
520. Wei, X.; Su, J.; Yang, K.; Wei, J.; Wan, H.; Cao, X.; Tan, W.; Wang, H. Elevations of serum cancer biomarkers correlate with severity of COVID-19. *J. Med. Virol.* **2020**, *92*, 2036–2041. [[CrossRef](#)]
521. Wei, X.; Zeng, W.; Su, J.; Wan, H.; Yu, X.; Cao, X.; Tan, W.; Wang, H. Hypolipidemia is associated with the severity of COVID-19. *J. Clin. Lipidol.* **2020**, *14*, 297–304. [[CrossRef](#)]
522. Wei, Z.Y.; Qiao, R.; Chen, J.; Huang, J.; Wu, H.; Wang, W.J.; Yu, H.; Xu, J.; Wang, C.; Gu, C.H.; et al. The influence of pre-existing hypertension on coronavirus disease 2019 patients. *Epidemiol. Infect.* **2021**, *149*, e4. [[CrossRef](#)] [[PubMed](#)]
523. Wen, X.S.; Jiang, D.; Gao, L.; Zhou, J.Z.; Xiao, J.; Cheng, X.C.; He, B.; Chen, Y.; Lei, P.; Tan, X.W.; et al. Clinical characteristics and predictive value of lower CD4(+)T cell level in patients with moderate and severe COVID-19: A multicenter retrospective study. *BMC Infect. Dis.* **2021**, *21*, 57. [[CrossRef](#)] [[PubMed](#)]
524. Williams, M.; Mi, E.; Le Calvez, K.; Chen, J.; Pakzad-Shahabi, L.; Dadhania, S.; Wang, J.; Ho, A.; Rabinowicz, S. Estimating the risk of death from COVID-19 in adult cancer patients. *Clin. Oncol.* **2021**, *33*, e172–e179. [[CrossRef](#)] [[PubMed](#)]
525. Wollenstein-Betech, S.; Silva, A.A.B.; Fleck, J.L.; Cassandras, C.G.; Paschalidis, I.C. Physiological and socioeconomic characteristics predict COVID-19 mortality and resource utilization in Brazil. *PLoS ONE* **2020**, *15*, e0240346. [[CrossRef](#)]
526. Wu, C.; Chen, X.; Cai, Y.; Xia, J.; Zhou, X.; Xu, S.; Huang, H.; Zhang, L.; Zhou, X.; Du, C.; et al. Risk factors associated with acute respiratory distress syndrome and death in patients with coronavirus disease 2019 pneumonia in Wuhan, China. *JAMA Intern. Med.* **2020**, *180*, 934–943. [[CrossRef](#)]
527. Wu, F.; Zhou, Y.; Wang, Z.; Xie, M.; Shi, Z.; Tang, Z.; Li, X.; Li, X.; Lei, C.; Li, Y.; et al. Clinical characteristics of COVID-19 infection in chronic obstructive pulmonary disease: A multicenter, retrospective, observational study. *J. Thorac. Dis.* **2020**, *12*, 1811–1823. [[CrossRef](#)]
528. Wu, J.; Li, W.; Shi, X.; Chen, Z.; Jiang, B.; Liu, J.; Wang, D.; Liu, C.; Meng, Y.; Cui, L. Early antiviral treatment contributes to alleviate the severity and improve the prognosis of patients with novel coronavirus disease (COVID-19). *J. Intern. Med.* **2020**, *288*, 128–138. [[CrossRef](#)]
529. Wu, M.; Ji, J.J.; Zhong, L.; Shao, Z.Y.; Xie, Q.F.; Liu, Z.Y.; Wang, C.L.; Su, L.; Feng, Y.W.; Liu, Z.F.; et al. Thymosin α 1 therapy in critically ill patients with COVID-19: A multicenter retrospective cohort study. *Int. Immunopharmacol.* **2020**, *88*, 106873. [[CrossRef](#)]
530. Xie, J.; Wu, W.; Li, S.; Hu, Y.; Hu, M.; Li, J.; Yang, Y.; Huang, T.; Zheng, K.; Wang, Y.; et al. Clinical characteristics and outcomes of critically ill patients with novel coronavirus infectious disease (COVID-19) in China: A retrospective multicenter study. *Intensive Care Med.* **2020**, *46*, 1863–1872. [[CrossRef](#)]
531. Xie, Y.; You, Q.; Wu, C.; Cao, S.; Qu, G.; Yan, X.; Han, X.; Wang, C.; Zhang, H. Impact of cardiovascular disease on clinical characteristics and outcomes of coronavirus disease 2019 (COVID-19). *Circ. J.* **2020**, *84*, 1277–1283. [[CrossRef](#)]
532. Xiong, F.; Tang, H.; Liu, L.; Tu, C.; Tian, J.B.; Lei, C.T.; Liu, J.; Dong, J.W.; Chen, W.L.; Wang, X.H.; et al. Clinical characteristics of and medical interventions for COVID-19 in hemodialysis patients in Wuhan, China. *J. Am. Soc. Nephrol.* **2020**, *31*, 1387–1397. [[CrossRef](#)]
533. Xiong, S.; Liu, L.; Lin, F.; Shi, J.; Han, L.; Liu, H.; He, L.; Jiang, Q.; Wang, Z.; Fu, W.; et al. Clinical characteristics of 116 hospitalized patients with COVID-19 in Wuhan, China: A single-centered, retrospective, observational study. *BMC Infect. Dis.* **2020**, *20*, 787. [[CrossRef](#)]
534. Xu, B.; Fan, C.; Wang, A.; Zou, Y.; Yu, Y.; He, C.; Xia, W.; Zhang, J.; Miao, Q. Suppressed T cell-mediated immunity in patients with COVID-19: A clinical retrospective study in Wuhan, China. *J. Infect.* **2020**, *81*, e51–e60. [[CrossRef](#)]
535. Xu, J.; Xie, J.; Du, B.; Tong, Z.; Qiu, H.; Bagshaw, S.M. Clinical characteristics and outcomes of patients with severe COVID-19 induced acute kidney injury. *J. Intensive Care Med.* **2021**, *36*, 319–326. [[CrossRef](#)]
536. Xu, J.; Yang, X.; Yang, L.; Zou, X.; Wang, Y.; Wu, Y.; Zhou, T.; Yuan, Y.; Qi, H.; Fu, S.; et al. Clinical course and predictors of 60-day mortality in 239 critically ill patients with COVID-19: A multicenter retrospective study from Wuhan, China. *Crit. Care* **2020**, *24*, 394. [[CrossRef](#)]
537. Xu, P.P.; Tian, R.H.; Luo, S.; Zu, Z.Y.; Fan, B.; Wang, X.M.; Xu, K.; Wang, J.T.; Zhu, J.; Shi, J.C.; et al. Risk factors for adverse clinical outcomes with COVID-19 in China: A multicenter, retrospective, observational study. *Theranostics* **2020**, *10*, 6372–6383. [[CrossRef](#)]
538. Yan, C.; Chang, Y.; Yu, H.; Xu, J.; Huang, C.; Yang, M.; Wang, Y.; Wang, D.; Yu, T.; Wei, S.; et al. Clinical factors and quantitative CT parameters associated with ICU admission in patients of COVID-19 pneumonia: A multicenter study. *Front. Public Health* **2021**, *9*, 648360. [[CrossRef](#)]
539. Yan, Q.; Zuo, P.; Cheng, L.; Li, Y.; Song, K.; Chen, Y.; Dai, Y.; Yang, Y.; Zhou, L.; Yu, W.; et al. Acute kidney injury is associated with in-hospital mortality in older patients with COVID-19. *J. Gerontol. A Biol. Sci. Med. Sci.* **2021**, *76*, 456–462. [[CrossRef](#)] [[PubMed](#)]
540. Yan, Y.; Yang, Y.; Wang, F.; Ren, H.; Zhang, S.; Shi, X.; Yu, X.; Dong, K. Clinical characteristics and outcomes of patients with severe covid-19 with diabetes. *BMJ Open Diabetes Res. Care* **2020**, *8*, e001343. [[CrossRef](#)] [[PubMed](#)]

541. Yang, C.; Liu, F.; Liu, W.; Cao, G.; Liu, J.; Huang, S.; Zhu, M.; Tu, C.; Wang, J.; Xiong, B. Myocardial injury and risk factors for mortality in patients with COVID-19 pneumonia. *Int. J. Cardiol.* **2021**, *326*, 230–236. [[CrossRef](#)] [[PubMed](#)]
542. Yang, D.; Xiao, Y.; Chen, J.; Chen, Y.; Luo, P.; Liu, Q.; Yang, C.; Xiong, M.; Zhang, Y.; Liu, X. COVID-19 and chronic renal disease: Clinical characteristics and prognosis. *QJM* **2020**, *113*, 799–805. [[CrossRef](#)]
543. Yang, G.; Tan, Z.; Zhou, L.; Yang, M.; Peng, L.; Liu, J.; Cai, J.; Yang, R.; Han, J.; Huang, Y.; et al. Effects of ARBs and ACEIs on Virus Infection, Inflammatory Status and Clinical Outcomes in COVID-19 Patients with Hypertension: A Single Center Retrospective Study. *Hypertension* **2020**, *76*, 51–58. [[CrossRef](#)]
544. Yang, K.; Sheng, Y.; Huang, C.; Jin, Y.; Xiong, N.; Jiang, K.; Lu, H.; Liu, J.; Yang, J.; Dong, Y.; et al. Clinical characteristics, outcomes, and risk factors for mortality in patients with cancer and COVID-19 in Hubei, China: A multicentre, retrospective, cohort study. *Lancet Oncol.* **2020**, *21*, 904–913. [[CrossRef](#)]
545. Yang, Q.; Xie, L.; Zhang, W.; Zhao, L.; Wu, H.; Jiang, J.; Zou, J.; Liu, J.; Wu, J.; Chen, Y.; et al. Analysis of the clinical characteristics, drug treatments and prognoses of 136 patients with coronavirus disease 2019. *J. Clin. Pharm. Ther.* **2020**, *45*, 609–616. [[CrossRef](#)]
546. Yang, R.; Gui, X.; Zhang, Y.; Xiong, Y. The role of essential organ-based comorbidities in the prognosis of COVID-19 infection patients. *Expert Rev. Respir. Med.* **2020**, *14*, 835–838. [[CrossRef](#)]
547. Yang, X.; Yang, Q.; Wang, Y.; Wu, Y.; Xu, J.; Yu, Y.; Shang, Y. Thrombocytopenia and its association with mortality in patients with COVID-19. *J. Thromb. Haemost.* **2020**, *18*, 1469–1472. [[CrossRef](#)]
548. Yao, Q.; Wang, P.; Wang, X.; Qie, G.; Meng, M.; Tong, X.; Bai, X.; Ding, M.; Liu, W.; Liu, K.; et al. Retrospective study of risk factors for severe SARS-Cov-2 infections in hospitalized adult patients. *Pol. Arch. Intern. Med.* **2020**, *130*, 390–399. [[CrossRef](#)]
549. Yarza, R.; Bover, M.; Paredes, D.; López-López, F.; Jara-Casas, D.; Castelo-Loureiro, A.; Baena, J.; Mazarico, J.M.; Folgueira, M.D.; Meléndez-Carmona, M.Á.; et al. SARS-CoV-2 infection in cancer patients undergoing active treatment: Analysis of clinical features and predictive factors for severe respiratory failure and death. *Eur. J. Cancer* **2020**, *135*, 242–250. [[CrossRef](#)]
550. Yayla, B.C.C.; Aykac, K.; Ozsurekci, Y.; Ceyhan, M. Characteristics and management of children with COVID-19 in a tertiary care hospital in Turkey. *Clin. Pediatr.* **2021**, *60*, 170–177. [[CrossRef](#)]
551. Yehia, B.R.; Winegar, A.; Fogel, R.; Fakhri, M.; Ottenbacher, A.; Jesser, C.; Bufalino, A.; Huang, R.; Cacchione, J. Association of race with mortality among patients hospitalized with coronavirus disease 2019 (COVID-19) at 92 US hospitals. *JAMA Netw. Open* **2020**, *3*, e2018039. [[CrossRef](#)]
552. Yu, C.; Lei, Q.; Li, W.; Wang, X.; Liu, W.; Fan, X.; Li, W. Clinical characteristics, associated factors, and predicting COVID-19 mortality risk: A retrospective study in Wuhan, China. *Am. J. Prev. Med.* **2020**, *59*, 168–175. [[CrossRef](#)]
553. Yu, X.; Sun, X.; Cui, P.; Pan, H.; Lin, S.; Han, R.; Jiang, C.; Fang, Q.; Kong, D.; Zhu, Y.; et al. Epidemiological and Clinical Characteristics of 333 Confirmed Cases with Coronavirus Disease 2019 in Shanghai, China. *Transbound. Emerg. Dis.* **2020**, *67*, 1697–1707. [[CrossRef](#)]
554. Yu, Y.; Liu, T.; Shao, L.; Li, X.; He, C.K.; Jamal, M.; Luo, Y.; Wang, Y.; Liu, Y.; Shang, Y.; et al. Novel biomarkers for the prediction of COVID-19 progression a retrospective, multi-center cohort study. *Virulence* **2020**, *11*, 1569–1581. [[CrossRef](#)]
555. Dong, Y.; Mo, X.; Hu, Y.; Qi, X.; Jiang, F.; Jiang, Z.; Tong, S. Epidemiology of COVID-19 among children in China. *Pediatrics* **2020**, *145*, e20200702. [[CrossRef](#)]
556. Yue, T.; Zhou, W.; He, J.; Wang, H.; Liu, Y.; Wang, B.; Zhu, Q.; Xia, H.; Hu, H. Combined clinical and imaging features better predict the critical outcomes of patients with SARS-COV-2. *Medicine* **2021**, *100*, e25083. [[CrossRef](#)]
557. Zachariah, P.; Johnson, C.L.; Halabi, K.C.; Ahn, D.; Sen, A.I.; Fischer, A.; Banker, S.L.; Giordano, M.; Manice, C.S.; Diamond, R.; et al. Epidemiology, clinical features, and disease severity in patients with coronavirus disease 2019 (COVID-19) in a children's hospital in New York City, New York. *JAMA Pediatr.* **2020**, *174*, e202430. [[CrossRef](#)]
558. Zelner, J.; Trangucci, R.; Narahariseti, R.; Cao, A.; Malosh, R.; Broen, K.; Masters, N.; Delamater, P. Racial disparities in coronavirus disease 2019 (COVID-19) mortality are driven by unequal infection risks. *Clin. Infect. Dis.* **2021**, *72*, e88–e95. [[CrossRef](#)]
559. Zeng, H.; Lu, Q.; Yang, Q.; Wang, X.; Yue, D.; Zhang, L.; Li, H.; Liu, W.; Li, H. Longitudinal profile of laboratory parameters and their application in the prediction for fatal outcome among patients infected with SARS-CoV-2: A retrospective cohort study. *Clin. Infect. Dis.* **2021**, *72*, 626–633. [[CrossRef](#)]
560. Zeng, Z.; Ma, Y.; Zeng, H.; Huang, P.; Liu, W.; Jiang, M.; Xiang, X.; Deng, D.; Liao, X.; Chen, P.; et al. Simple nomogram based on initial laboratory data for predicting the probability of ICU transfer of COVID-19 patients: Multicenter retrospective study. *J. Med. Virol.* **2021**, *93*, 434–440. [[CrossRef](#)]
561. Zhang, G.; Zhang, J.; Wang, B.; Zhu, X.; Wang, Q.; Qiu, S. Analysis of clinical characteristics and laboratory findings of 95 cases of 2019 novel coronavirus pneumonia in Wuhan, China: A retrospective analysis. *Respir. Res.* **2020**, *21*, 74. [[CrossRef](#)]
562. Zhang, H.; Cao, X.; Kong, M.; Mao, X.; Huang, L.; He, P.; Pan, S.; Li, J.; Lu, Z. Clinical and hematological characteristics of 88 patients with COVID-19. *Int. J. Lab. Hematol.* **2020**, *42*, 780–787. [[CrossRef](#)]
563. Zhang, H.; Wang, L.; Chen, Y.; Wu, Q.; Chen, G.; Shen, X.; Wang, Q.; Yan, Y.; Yu, Y.; Zhong, Y.; et al. Outcomes of novel coronavirus disease 2019 (COVID-19) infection in 107 patients with cancer from Wuhan, China. *Cancer* **2020**, *126*, 4023–4031. [[CrossRef](#)]
564. Zhang, J.; Hao, Y.; Ou, W.; Ming, F.; Liang, G.; Qian, Y.; Cai, Q.; Dong, S.; Hu, S.; Wang, W.; et al. Serum interleukin-6 is an indicator for severity in 901 patients with SARS-CoV-2 infection: A cohort study. *J. Transl. Med.* **2020**, *18*, 406. [[CrossRef](#)] [[PubMed](#)]

565. Zhang, J.; Liu, P.; Wang, M.; Wang, J.; Chen, J.; Yuan, W.; Li, M.; Xie, Z.; Dong, W.; Li, H.; et al. The clinical data from 19 critically ill patients with coronavirus disease 2019: A single-centered, retrospective, observational study. *J. Public Health* **2020**, *21*, 361–364. [[CrossRef](#)] [[PubMed](#)]
566. Zhang, L.; Fan, T.; Yang, S.; Feng, H.; Hao, B.; Lu, Z.; Xiong, R.; Shen, X.; Jiang, W.; Wang, W.; et al. Comparison of clinical characteristics of COVID-19 between elderly patients and young patients: A study based on a 28-day follow-up. *Aging* **2020**, *12*, 19898–19910. [[CrossRef](#)] [[PubMed](#)]
567. Zhang, L.; Sun, W.; Wang, Y.; Wang, X.; Liu, Y.; Zhao, S.; Long, D.; Chen, L.; Yu, L. Clinical course and mortality of stroke patients with coronavirus disease 2019 in Wuhan, China. *Stroke* **2020**, *51*, 2674–2682. [[CrossRef](#)]
568. Zhang, L.; Zhu, F.; Xie, L.; Wang, C.; Wang, J.; Chen, R.; Jia, P.; Guan, H.Q.; Peng, L.; Chen, Y.; et al. Clinical characteristics of COVID-19-infected cancer patients: A retrospective case study in three hospitals within Wuhan, China. *Ann. Oncol.* **2020**, *31*, 894–901. [[CrossRef](#)]
569. Zhang, N.; Wang, C.; Zhu, F.; Mao, H.; Bai, P.; Chen, L.L.; Zeng, T.; Peng, M.M.; Qiu, K.L.; Wang, Y.; et al. Risk factors for poor outcomes of diabetes patients with COVID-19: A single-center, retrospective study in early outbreak in China. *Front. Endocrinol.* **2020**, *11*, 571037. [[CrossRef](#)]
570. Zhang, N.; Xu, X.; Zhou, L.Y.; Chen, G.; Li, Y.; Yin, H.; Sun, Z. Clinical characteristics and chest CT imaging features of critically ill COVID-19 patients. *Eur. Radiol.* **2020**, *30*, 6151–6160. [[CrossRef](#)]
571. Zhang, N.; Zhang, H.; Tang, Y.; Zhang, H.; Ma, A.; Xu, F.; Sun, Y.; Jiang, L.; Shan, F. Risk factors for illness severity in patients with COVID-19 pneumonia: A prospective cohort study. *Int. J. Med. Sci.* **2021**, *18*, 921–928. [[CrossRef](#)]
572. Zhang, Q.; Wei, Y.; Chen, M.; Wan, Q.; Chen, X. Clinical analysis of risk factors for severe COVID-19 patients with type 2 diabetes. *J. Diabetes Complicat.* **2020**, *34*, 107666. [[CrossRef](#)]
573. Zhang, R.; Ouyang, H.; Fu, L.; Wang, S.; Han, J.; Huang, K.; Jia, M.; Song, Q.; Fu, Z. CT features of SARS-CoV-2 pneumonia according to clinical presentation: A retrospective analysis of 120 consecutive patients from Wuhan city. *Eur. Radiol.* **2020**, *30*, 4417–4426. [[CrossRef](#)]
574. Zhang, S.; Guo, M.; Duan, L.; Wu, F.; Hu, G.; Wang, Z.; Huang, Q.; Liao, T.; Xu, J.; Ma, Y.; et al. Development and validation of a risk factor-based system to predict short-term survival in adult hospitalized patients with COVID-19: A multicenter, retrospective, cohort study. *Crit. Care* **2020**, *24*, 438. [[CrossRef](#)]
575. Zhang, W.; Li, C.; Xu, Y.; He, B.; Hu, M.; Cao, G.; Li, L.; Wu, S.; Wang, X.; Zhang, C.; et al. Hyperglycemia and correlated high levels of inflammation have a positive relationship with the severity of coronavirus disease 2019. *Mediat. Inflamm.* **2021**, *2021*, 8812304. [[CrossRef](#)]
576. Zhang, Y.; Sha, T.; Wu, F.; Hu, H.; Chen, Z.; Li, H.; Han, J.; Song, W.; Huang, Q.; Zeng, Z. Hypertension in patients hospitalized with COVID-19 in Wuhan, China. *Int. Heart J.* **2021**, *62*, 337–343. [[CrossRef](#)]
577. Zhang, Y.; Zheng, L.; Liu, L.; Zhao, M.; Xiao, J.; Zhao, Q. Liver impairment in COVID-19 patients: A retrospective analysis of 115 cases from a single centre in Wuhan city, China. *Liver Int.* **2020**, *40*, 2095–2103. [[CrossRef](#)]
578. Zhao, J.; Zhu, M.; Su, X.; Huang, M.; Yang, Y.; Huang, J.; Songshi, N.; Cao, Q.; Gu, Q.; Li, J.; et al. Clinical features and risk factors for severe-critically ill COVID-19 adult patients in Jiangsu, China: A multiple-centered, retrospective study. *Medicine* **2021**, *100*, e24332. [[CrossRef](#)]
579. Zhao, M.; Wang, M.; Zhang, J.; Gu, J.; Zhang, P.; Xu, Y.; Ye, J.; Wang, Z.; Ye, D.; Pan, W.; et al. Comparison of clinical characteristics and outcomes of patients with coronavirus disease 2019 at different ages. *Aging* **2020**, *12*, 10070–10086. [[CrossRef](#)]
580. Zhao, X.; Li, Y.; Ge, Y.; Shi, Y.; Lv, P.; Zhang, J.; Fu, G.; Zhou, Y.; Jiang, K.; Lin, N.; et al. Evaluation of nutrition risk and its association with mortality risk in severely and critically ill COVID-19 patients. *JPEN J. Parenter. Enteral Nutr.* **2021**, *45*, 32–42. [[CrossRef](#)]
581. Zhao, Y.; Nie, H.X.; Hu, K.; Wu, X.J.; Zhang, Y.T.; Wang, M.M.; Wang, T.; Zheng, Z.S.; Li, X.C.; Zeng, S.L. Abnormal immunity of non-survivors with COVID-19: Predictors for mortality. *Infect. Dis. Poverty* **2020**, *9*, 108. [[CrossRef](#)]
582. Zheng, B.; Cai, Y.; Zeng, F.; Lin, M.; Zheng, J.; Chen, W.; Qin, G.; Guo, Y. An interpretable model-based prediction of severity and crucial factors in patients with COVID-19. *Biomed. Res. Int.* **2021**, *2021*, 8840835. [[CrossRef](#)]
583. Zheng, K.I.; Gao, F.; Wang, X.B.; Sun, Q.F.; Pan, K.H.; Wang, T.Y.; Ma, H.L.; Chen, Y.P.; Liu, W.Y.; George, J.; et al. Obesity as a risk factor for greater severity of COVID-19 in patients with metabolic associated fatty liver disease. *Metabolism* **2020**, *108*, 154244. [[CrossRef](#)]
584. Zheng, T.; Yang, C.; Wang, H.Y.; Chen, X.; Yu, L.; Wu, Z.L.; Sun, H. Clinical Characteristics and Outcomes of COVID-19 Patients with Gastrointestinal Symptoms Admitted to Jiangnan Fangcang Shelter Hospital in Wuhan, China. *J. Med. Virol.* **2020**, *92*, 2735–2741. [[CrossRef](#)]
585. Zhong, Y.; Zhao, L.; Wu, G.; Hu, C.; Wu, C.; Xu, M.; Dong, H.; Zhang, Q.; Wang, G.; Yu, B.; et al. Impact of renin-angiotensin system inhibitors use on mortality in severe COVID-19 patients with hypertension: A retrospective observational study. *J. Int. Med. Res.* **2020**, *48*, 300060520979151. [[CrossRef](#)] [[PubMed](#)]
586. Zhou, J.; Chen, B.; Wang, Y.; Wu, F. Epidemiological and clinical characteristics of 217 cases of COVID-19 in Jiangsu province, China. *Med. Sci. Monit.* **2021**, *27*, e930853. [[CrossRef](#)] [[PubMed](#)]
587. Zhou, J.; Ma, Y.; Liu, Y.; Xiang, Y.; Tao, C.; Yu, H.; Huang, J. A correlation analysis between the nutritional status and prognosis of COVID-19 patients. *J. Nutr. Health Aging* **2021**, *25*, 84–93. [[CrossRef](#)]

588. Zhou, S.; Mi, S.; Luo, S.; Wang, Y.; Ren, B.; Cai, L.; Wu, M. Risk factors for mortality in 220 patients with COVID-19 in Wuhan, China: A single-center, retrospective study. *Ear Nose Throat J.* **2021**, *100*, 140S–147S. [CrossRef]
589. Zhou, W.; Liu, Y.; Xu, B.; Wang, S.; Li, S.; Liu, H.; Huang, Z.; Luo, Y.; Hu, M.; Wu, W.; et al. Early identification of patients with severe COVID-19 at increased risk of in-hospital death: A multicenter case-control study in Wuhan. *J. Thorac. Dis.* **2021**, *13*, 1380–1395. [CrossRef]
590. Zhou, Y.; He, Y.; Yang, H.; Yu, H.; Wang, T.; Chen, Z.; Yao, R.; Liang, Z. Development and validation a nomogram for predicting the risk of severe COVID-19: A multi-center study in Sichuan, China. *PLoS ONE* **2020**, *15*, e0233328. [CrossRef]
591. Zhou, Y.; He, Y.; Yang, H.; Yu, H.; Wang, T.; Chen, Z.; Yao, R.; Liang, Z. Exploiting an early warning nomogram for predicting the risk of ICU admission in patients with COVID-19: A multi-center study in China. *Scand. J. Trauma Resusc. Emerg. Med.* **2020**, *28*, 106. [CrossRef]
592. Zhu, B.; Jin, S.; Wu, L.; Hu, C.; Wang, Z.; Bu, L.; Sun, H.; Wang, X.; Qu, S.; Chen, D. J-shaped association between fasting blood glucose levels and COVID-19 severity in patients without diabetes. *Diabetes Res. Clin. Pract.* **2020**, *168*, 108381. [CrossRef]
593. Zhu, Y.; Zhang, J.; Li, Y.; Liu, F.; Zhou, Q.; Peng, Z. Association between thrombocytopenia and 180-day prognosis of COVID-19 patients in intensive care units: A two-center observational study. *PLoS ONE* **2021**, *16*, e0248671. [CrossRef]
594. Zieleskiewicz, L.; Markarian, T.; Lopez, A.; Taguet, C.; Mohammedi, N.; Boucekine, M.; Baumstarck, K.; Besch, G.; Mathon, G.; Duclos, G.; et al. Comparative study of lung ultrasound and chest computed tomography scan in the assessment of severity of confirmed COVID-19 pneumonia. *Intensive Care Med.* **2020**, *46*, 1707–1713. [CrossRef] [PubMed]
595. Zou, X.; Li, S.; Fang, M.; Hu, M.; Bian, Y.; Ling, J.; Yu, S.; Jing, L.; Li, D.; Huang, J. Acute physiology and chronic health evaluation II score as a predictor of hospital mortality in patients of coronavirus disease 2019. *Crit. Care Med.* **2020**, *48*, e657–e665. [CrossRef]
596. Zou, Y.; Guo, H.; Zhang, Y.; Zhang, Z.; Liu, Y.; Wang, J.; Lu, H.; Qian, Z. Analysis of coagulation parameters in patients with COVID-19 in Shanghai, China. *Biosci. Trends.* **2020**, *14*, 285–289. [CrossRef]
597. Zuniga, M.; Moreno-Moral, A.; Ocana-Granados, A.; Padilla-Moreno, F.A.; Castillo-Fernández, A.M.; Guillamón-Fernández, D.; Ramírez-Sánchez, C.; Sanchez-Palop, M.; Martínez-Colmenero, J.; Pimentel-Villar, M.A.; et al. High-dose corticosteroid pulse therapy increases the survival rate in COVID-19 patients at risk of hyper-inflammatory response. *PLoS ONE* **2021**, *16*, e0243964.
598. Zuo, P.; Tong, S.; Yan, Q.; Cheng, L.; Li, Y.; Song, K.; Chen, Y.; Dai, Y.; Gao, H.; Zhang, C. Decreased prealbumin level is associated with increased risk for mortality in elderly hospitalized patients with COVID-19. *Nutrition* **2020**, *78*, 110930. [CrossRef]
599. Odegaard, J.I.; Chawla, A. Connecting type 1 and type 2 diabetes through innate immunity. *Cold Spring Harbor Perspect. Med.* **2012**, *2*, a007724. [CrossRef]
600. Bajaj, V.; Gadi, N.; Spihlman, A.P.; Wu, S.C.; Choi, C.H.; Moulton, V.R. Aging, Immunity and COVID-19: How Age Influences the Host Immune Response to Coronavirus Infections? *Front. Physiol.* **2021**, *11*, 571416. [CrossRef]
601. Prasad, S.; Sung, B.; Aggarwal, B.B. Age-associated chronic diseases require age-old medicine: Role of chronic inflammation. *Prev. Med.* **2012**, *54*, S29–S37. [CrossRef]
602. Banoun, H. Evolution of SARS-CoV-2: Review of Mutations, Role of the Host Immune System. *Nephron* **2021**, *145*, 392–403. [CrossRef]
603. Rochman, N.D.; Wolf, Y.I.; Faure, G.; Mutz, P.; Zhang, F.; Koonin, E.V. Ongoing global and regional adaptive evolution of SARS-CoV-2. *Proc. Natl. Acad. Sci. USA* **2021**, *118*, e2104241118. [CrossRef]
604. Markov, P.V.; Katzourakis, A.; Stilianakis, N.I. Antigenic evolution will lead to new SARS-CoV-2 variants with unpredictable severity. *Nat. Rev. Microbiol.* **2022**, *20*, 251–252. [CrossRef]
605. Nikolaidis, M.; Markoulatos, P.; Van de Peer, Y.; Oliver, S.G.; Amoutzias, G.D. The Neighborhood of the Spike Gene Is a Hotspot for Modular Intertypic Homologous and Nonhomologous Recombination in Coronavirus Genomes. *Mol. Biol. Evol.* **2022**, *39*, msab292. [CrossRef] [PubMed]
606. Nikolaidis, M.; Papakyriakou, A.; Chlichlia, K.; Markoulatos, P.; Oliver, S.G.; Amoutzias, G.D. Comparative Analysis of SARS-CoV-2 Variants of Concern, Including Omicron, Highlights Their Common and Distinctive Amino Acid Substitution Patterns, Especially at the Spike ORF. *Viruses* **2022**, *14*, 707. [CrossRef] [PubMed]
607. Singh, J.; Pandit, P.; McArthur, A.G.; Banerjee, A.; Mossman, K. Evolutionary trajectory of SARS-CoV-2 and emerging variants. *Viol. J.* **2021**, *18*, 166. [CrossRef]
608. Arora, P.; Rocha, C.; Kempf, A.; Nehlmeier, I.; Graichen, L.; Winkler, M.S.; Lier, M.; Schulz, S.; Jäck, H.M.; Cossmann, A.; et al. The spike protein of SARS-CoV-2 variant A.30 is heavily mutated and evades vaccine-induced antibodies with high efficiency. *Cell. Mol. Immunol.* **2021**, *18*, 2673–2675. [CrossRef]
609. Bauchner, H.; Golub, R.M.; Zylke, J. Editorial Concern—Possible Reporting of the Same Patients with COVID-19 in Different Reports. *JAMA* **2020**, *323*, 1256. [CrossRef]
610. Scientific Paper Claiming Smokers Less Likely to Acquire Covid Retracted over Tobacco Industry Links. Available online: <https://www.theguardian.com/science/2021/apr/22/scientific-paper-claiming-smokers-less-likely-to-acquire-covid-retracted-over-tobacco-industry-links> (accessed on 30 April 2022).