regression analyses (p= 0.032 and p= 0.020 respectively) and across diagnostic groups. There was no difference in treatment response or drug survival between originator and biosimilar adalimumab. (Table 1 and Figure 1B)

Conclusion: This observational study showed higher occurrence of ADAb formation and lower adalimumab serum levels in patients on adalimumab originator vs biosimilar, indicating differences in the immunogenicity profile. There was, however, no significant difference in clinical outcomes.

Table 1.

	Originator (Humira) (240)	Biosimilar (Hyrimoz) (138)	P-value
Diagnosis			
SpA	113 (47%)	64 (46%)	
RA	59 (23%)	39 (29%)	
PsA	41 (17%)	29 (21%)	
Other	27 (13%)	6 (4%)	
Co-medication methotrexate	86 (36%)	53 (38%)	0.53 #
Previous use of bDMARDs	90 (38%)	39 (29%)	0.048 #
Disease duration, median years (IQR)	4.5 (IQR 1.2-13)	4.8 (0.9-11.6)	0.79 *
Responders at 3 months, no (%)			
SpA	53/111 (48%)	29/59 (49%)	0.86 #
RA	35/57 (61%)	28/39 (72%)	0.29 #
PsA	25/41 (61%)	22/28 (79%)	0.12 #
Other	17/27 (63%)	4/5 (80%)	0.46 #

*ranksum test #chi square test

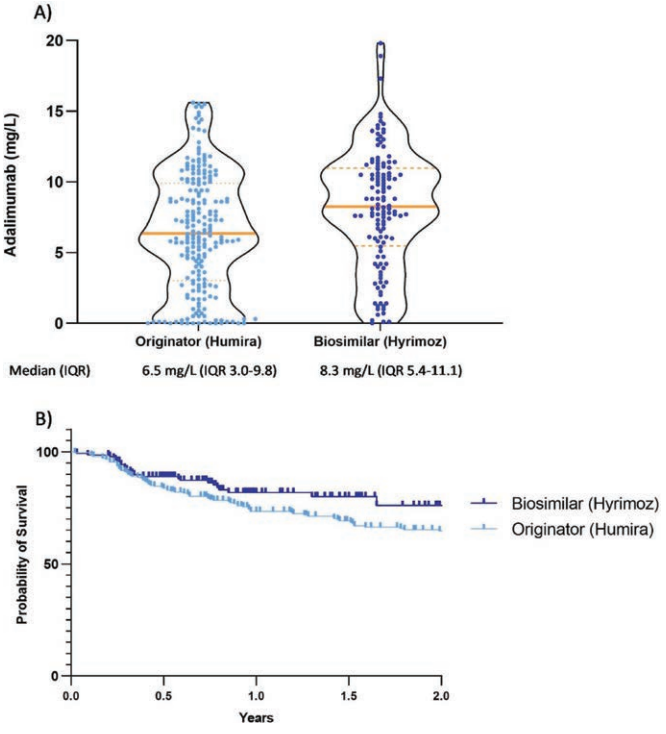

Figure 1. Serum adalimumab levels and drug survival, all diagnoses. A) Violin plot showing the probability density of the data at different values. Each data point is a participant, and the solid orange line show the group median. **B)** Drug survival the first two years of adalimumab treatment, stratified by originator (Humira) and biosimilar (Hyrimoz). P=0.14 (logrank test, not significant)

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POS0253

FACTORS ASSOCIATED WITH TREATMENT PATHWAYS IN EARLY AXIAL SPONDYLOARTHRITIS: A MULTISTATE ANALYSIS OF THE 10-YEAR FOLLOW-UP OF THE DESIR COHORT

Keywords: Descriptive Studies, Spondyloarthritis

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Background: Current recommendations for the management of patients with axial spondyloarthritis (axSpA) emphasize the need of individualized strategy in the therapeutic decision [1,2]. Thus, many factors seem to impact this strategy.

Objectives: The objectives of the study were to describe the therapeutic strategies observed in axSpA, and to assess the factors associated with treatment changes over time.

Methods: This study included patients with axSpA from the French prospective cohort DESIR, with a follow-up of 10 years. A multi-state model was built, including 4 treatment states with an increasing gradation ("none", "non-steroidal anti-inflammatory drugs (NSAID)", "conventional synthetic DMARD (csDMARD)", "TNF inhibitors (TNFi)"), and 6 possible transitions from one state to another. Estimation of the restricted mean sojourn times spent in each state from the state occupation probabilities was performed. Then, Cox regression models were used to study the potential impact of factors on transitions.

Results: 686 of the 708 patients which had more than one visit were analyzed. At cohort entry, 199 (29.0%) were untreated, 427 (62.2%) received NSAID, and 60 (8.7%) received csDMARD. Over the 10 years of follow-up, patients mostly received NSAID (46.4% of the time) followed by TNFi (24.4% of the time). In multivariable analysis (**figure 1**), presence of sacroiliitis on radiography, internal bowel disease and articular index were associated with transition to NSAID. Duration in the previous state was often a significant protective factor associated with transition to csDMARD or TNFi. Finally, the several disease activity outcomes were associated with most transitions.

Conclusion: This was the first study using a multistate model to easily represent the different states, transitions and their associated factors. There appeared to be subcategories of axSpA patients with different management (including some without any treatment), and a significant proportion of patients treated with csDMARD.

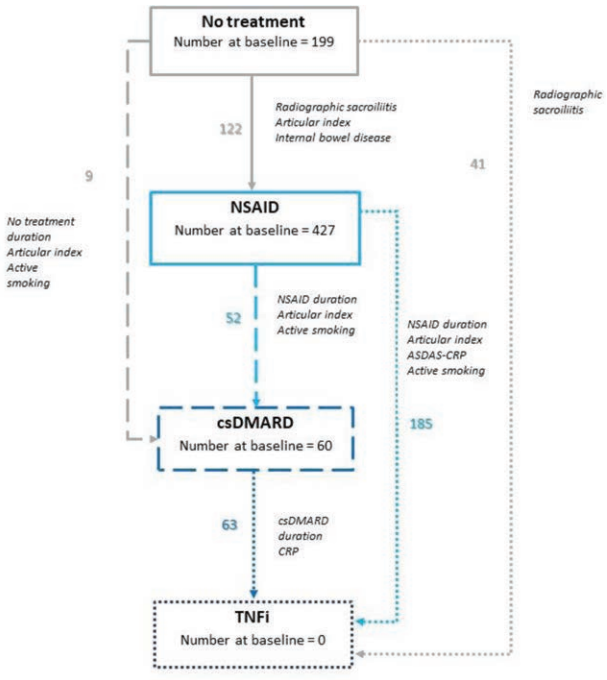

Figure 1. Multistate model representation. Each arrow corresponds to a possible transition (n=6). Number at baseline denotes the number of patients who started from the state at baseline. The number of events and factors significantly associated with each transition in the multivariable analysis are written near to the corresponding arrow.NSAID refers to non-steroids anti-inflammatory drugs, csDMARD stands for conventional synthetic Disease Modifying Anti-Rheumatic Drug, and TNFi for tumor necrosis factor inhibitors.

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POS0254

PREDICTING SUCCESSFUL TAPERING OF BIOLOGICS IN PATIENTS WITH INFLAMMATORY ARTHRITIS: SECONDARY ANALYSES FROM THE BIODOPT TRIAL

Keywords: Tapering, Inflammatory arthritides, bDMARD

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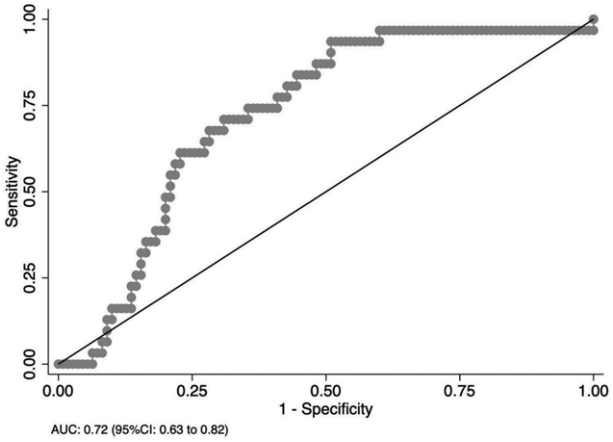
Background: Identification of predictors for successful tapering of biologics in patients with inflammatory arthritis (IA) can help to guide physicians and patients; but, evidence is lacking.
Objectives: To identify possible predictors for successful tapering of biological disease modifying anti-rheumatic drugs (bDMARDs) from baseline characteristics.
Methods: BIODOPT was a randomised, open-label, equivalence trial (EudraCT 2017-001970-41) where adults with rheumatoid arthritis (RA; n=61), psoriatic arthritis (PsA; n=26), or axial spondyloarthritis (axSpA; n=55) in ≥12 months low disease activity (LDA) were randomised 2:1 to disease activity-guided tapering or to continuation of biologics as usual care. Successful tapering at 18 months was pre-defined as patients who could reduce their biologic dose ≥50% while still being in LDA. Modified poisson regression with robust variance estimator was used for the analyses. Univariable analyses were: tapering group, sex, age, education, tobacco use, body mass index, comorbidity, arthritis characteristics i.e., diagnosis, duration, duration from diagnosis to treatment start, on ≥2 conventional synthetic DMARDs, on methotrexate, on tumour necrosis factor inhibitor (TNFi), on first bDMARD, on bDMARD number ≥3, duration of bDMARD, duration of remission on bDMARD, duration of LDA on bDMARD, previous bDMARD tapering, C-reactive protein (CRP) before first bDMARD, Health Assessment Questionnaire Disability Index (HAQ-DI), Pain Visual Analog Scale (VAS), Fatigue VAS, Patient Global Health VAS, Short Form Health Survey 36 (SF-36) physical and mental component summary (PCS and MCS), tender joints, Physician Global Health VAS, CRP, and in remission. Potentially important variables (univariate p<0.10) were included in the multivariable model. C-statistics was used to assess model prediction.
Results: One-hundred-and-forty-two patients were randomised to tapering (n=95) or control (n=47) of which 32% (30/95) and 2% (1/47) achieved successful bDMARD tapering at 18 months. A statistically significant associations (univariate p<0.10) was identified between successful tapering and tapering group, HAQ-DI, Pain VAS, Fatigue VAS, Patient Global Health VAS, SF-36 PCS, and SF-36 MCS, ***Table 1***. However, the only independent predictor for achieving successful tapering in the multivariable model was allocation to the tapering group, risk ratio (RR): 14.0 (95%CI: 1.9-101.3). Interestingly, individuals with a better mental health state (higher SF-36 MCS) were potentially more likely to achieve successful tapering; RR: 1.06 (95%CI: 0.99-1.13). A sensitivity analysis only including tapering group and SF-36 MCS found both variables to be independent predictors, tapering group: RR 14.3 (95%CI: 2.0-101.9) and SF-36 MCS: RR: 1.06 (95%CI: 1.01-1.11). The multivariable model gave reasonable prediction, ***Figure 1***.
Conclusion: One-third of patients with IA achieved successful tapering when the bDMARD dosing interval was spaced after a disease activity-guided tapering algorithm. The choice of initiating tapering (allocation to tapering) was the only independent predictor; therefore, physicians should keep the option in mind when patients are in sustained LDA. Moreover, better baseline mental health seemed to have potential importance which points to the value of patient comprehension and willingness to engage in the tapering approach.

Table 1. Regression analyses on variables included in the multivariable model for prediction of successful tapering at 18 months.

Baseline variables	Univariable analysis RR (95%CI)	P-value	Multivariable analysis RR (95%CI)	P-value
Tapering group	14.8 (2.1-106.3)	0.007	14.0 (1.9-101.3)	0.009
HAQ-DI	0.44 (0.20-1.00)	0.049	0.60 (0.26-1.37)	0.221
Pain VAS	0.96 (0.93-1.00)	0.024	0.99 (0.94-1.04)	0.720
Fatigue VAS	0.99 (0.97-1.00)	0.072	1.01 (0.99-1.02)	0.495
Patient global health VAS	0.97 (0.95-0.99)	0.011	1.00 (0.97-1.03)	0.955
SF-36 PCS	1.06 (1.00-1.11)	0.045	1.00 (0.93-1.07)	0.915
SF-36 MCS	1.06 (1.01-1.12)	0.011	1.06 (0.99-1.13)	0.097

Figure 1: Area under the receiver operator curve for the multivariable model



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Pain in RMDs

POS0255

A PRO-NOCICEPTIVE POPULATION OF NEUTROPHILS INFILTRATE SENSORY GANGLIA AND MEDIATE CHRONIC WIDESPREAD PAIN IN FIBROMYALGIA SYNDROME

Keywords: Pain, Fibromyalgia, Innate immunity

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Background: Although the aetiology of chronic widespread pain in fibromyalgia syndrome is unknown and generally recognised as a central pain syndrome, several recent studies point towards a peripheral aetiology. Aberrant activity of immune cells and associated cytokine signalling has also been linked to