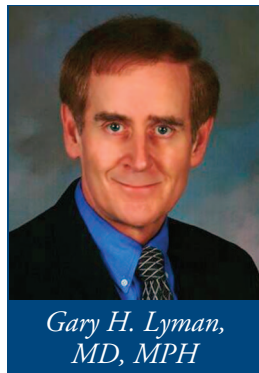


# Undertreatment of Cancer Patients With Chemotherapy Is a Global Concern

By Gary H. Lyman, MD, MPH



The efficacy of cancer chemotherapy is generally established on the basis of randomized controlled clinical trials evaluating a particular drug or combination using a specific dose and schedule. In adult patients with cancer, drug dosing has traditionally been based on a patient's estimated body-surface area (BSA), although there are little data supporting such a strategy. Despite continuing

controversy concerning the value of dose escalation and intensification schedules, there exists compelling preclinical and clinical evidence indicating that reductions in standard dose intensity may compromise disease-free and overall survival in the curative setting.<sup>1-4</sup> In practice, however, the delivery of full standard dose intensity is often not achieved for a variety of reasons including fear of excessive toxicity in elderly and obese patients.<sup>5,6</sup>

Cancer is largely a disease of aging, and the treatment of cancer in elderly patients should be cognizant of both limited bone marrow reserves and any associated comorbidity.<sup>7</sup> With modern supportive care, however, it has been demonstrated that most elderly patients with cancer can both tolerate and benefit from standard chemotherapy regimens.<sup>7-10</sup> Likewise, concerns about overdosing the obese patient with cancer based on the use of actual body weight are largely unfounded.<sup>5,11-13</sup> In fact, an obese patient with cancer often experiences less toxicity while deriving less benefit from such undertreatment, perhaps explaining the poorer outcomes often observed in such patients.<sup>11,14</sup> Recent pharmacokinetic studies have clearly demonstrated that actual rather than ideal body weight should be used in dose calculations.<sup>15</sup>

Nevertheless, recent investigations, including the study from Australia reported in this issue of the *Journal of Oncology Practice*, confirm that many oncologists continue to either use "ideal" rather than actual body weight to calculate BSA or cap the BSA at 2.0 m<sup>2</sup>, resulting in a systematic underdosing of

chemotherapy among overweight and obese patients.<sup>16</sup> A large proportion of practicing oncologists and trainees in Australia responded to a survey soliciting their approach to dosing and dose reduction among the fit, the elderly, the obese, and the thin patient with cancer. While the majority stated that they dose based on actual body weight, half of all respondents indicated that they cap at a BSA 2.0 m<sup>2</sup> when treating the obese patient with cancer. The majority of the remaining respondents dose based on ideal body weight, leaving only 6% who dose on the basis of actual weight. Only one fourth of oncologists indicated that they rarely dose reduce in this setting while another fourth do so routinely and half reduce in some cases. The investigators in the current study did not survey chemotherapy dosing in actual practice. However, the responses obtained are consistent with those found among oncology practices in the United States and elsewhere, demonstrating considerable variation in chemotherapy dosing of the elderly and the obese.<sup>5,8,16</sup>

Unfortunately, the problem identified here may be but the tip of the iceberg as it does not address those patients with limited access to oncology care, those who may not see or are not treated by an oncologist, and those who do not comply with treatment. Some authors have argued that chemotherapy dose intensity delivered in the curative cancer setting should be considered a quality-of-care measure.<sup>1,17</sup> There does appear to be sufficient uncertainty on the part of oncologists on how best to dose elderly and obese patients with cancer that the American Society of Clinical Oncology might consider either a policy statement or the development of a clinical practice guideline providing appropriate recommendations for chemotherapy dosing based on a comprehensive systematic review of the available evidence. While more research is clearly needed in this important area, it is essential that the science that we do have is applied appropriately and effectively in the optimal treatment of patients with cancer.

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DOI: 10.1200/JOP.0831502

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