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Letters

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Comments on: *Why do Patients with Weight Loss have a Worse Outcome when Undergoing Chemotherapy for Gastrointestinal Malignancies*, Andreyev *et al.*, *Eur J Cancer* 1998, 34, pp. 503–509

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I READ WITH interest the paper by Andreyev and colleagues [1] and agree with its authors that the question of whether weight loss is simply a marker and/or a consequence of an aggressive tumour, or rather nutritional depletion may make the tumour more aggressive, continues to be a conundrum. However, I believe that in regards to this point, as well as to that of the potential role of supplemental glutamine in the prevention of mucositis, the literature offers more data than Andreyev and associates seem to think.

In a study on 246 adult patients with non-Hodgkin lymphomas [2], we investigated the relationship between nutritional status (weight loss, serum albumin, serum cholinesterase, number of peripheral lymphocytes) and aggressiveness of the tumour, assessed by means of the labelling index. We found that the better the nutritional status of the patients, the lower the labelling index of the tumour. There are two obvious interpretations of these findings. First, good nutritional status results in better host defence and, consequently, better control of tumour cell proliferative kinetics. Second, the less aggressive (slowly proliferating) the tumour, the less impact it has on the nutritional status of the host.

That the first hypothesis is not likely is suggested by the experience of those authors [3–5] who investigated the effects of nutritional support on the host and on the tumour. They showed that nutritional repletion achieved in the host with parenteral and enteral nutrition may also translate into stimulation of proliferative kinetics in the cancer cells which show an increase in the labelling index. Therefore, at least at the beginning, it is conceivable that aggressive tumours adversely affect nutritional status, even if it is true that later ongoing malnutrition depresses the host's defences.

As regards the role of supplemental glutamine in the prevention of mucositis, this issue has been explored in at least three prospective clinical trials [6–8], with no benefit having been found on gastrointestinal toxicity. This is not in contrast with data on experimental tumours in animals, where glutamine seemed to be effective against chemotherapy and radiation induced toxicity. Simply speaking, tumour-bearing animals have glutamine deficiency when there is substantial weight loss, a condition which is not absolutely necessary in order to have 5-fluorouracil induced diarrhoea in humans. In fact, this seems attributable to the toxicity of 5-fluorouracil within the small intestine, where pyrimidine phosphorylases are detectable [9], and where changes occur in absorptive and peptide hydrolase activity [10]. Under these conditions it is not surprising that glutamine supplementation has little effect.

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