

Expert consensus on the nutritional therapy for patients with malignancies

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Submitted Feb 19, 2013. Accepted for publication Feb 22, 2013.

doi: 10.3978/j.issn.2304-3865.2013.02.01

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I applaud the Chinese Society of Clinical Oncology (CSCO) for their efforts to create a consensus statement on nutritional therapy for patients with malignancies. The CSCO have accomplished a significant first step toward their goal by establishing operational definitions for key terms and by delineating specific hierarchical criteria for evaluating the current state of the scientific evidence upon which clinicians may base practice decisions. To this end, the CSCO relied heavily on the practice guidelines established by the American Society for Parenteral and Enteral Nutrition (ASPEN) and European Society for Parenteral and Enteral Nutrition (ESPEN) (1-6).

The ASPEN and ESPEN guidelines are consensus statements based on outcomes research which have divergent units of analysis. The unit of analysis of outcome research may be the patient, the health care setting, or the population in general (7,8). In countries with private payer healthcare delivery systems, such as those for which ASPEN guidelines were based, the outcome of treatment is more commonly focused on disease specific changes in patient health status and quality of life. This is reflected in the ASPEN mission statement, which is to improve patient care (3). The value of treatment in publically funded health care delivery systems, such as those represented in the ESPEN guidelines, is more focused on the health state or quality of life of the population in general (9). The goal of the ESPEN guidelines is focused on providing evidence upon which health care purchasers may base spending decision (5).

Another factor limiting the application of ASPEN and ESPEN guidelines is the prevalence of obesity in western countries. In the United States, the majority of the population are over-weight or obese. According to the world health organization data on global obesity, 75% of Americans are over-weight or obese, where less than 45%

of Chinese are overweight (10). Furthermore, in a study using data from the Chinese Health and Nutritional study, He *et al.* (2011) reported that only 824 of the 7,192 adults enrolled in 2006 had BMI greater than 25 (11).

Though rates of obesity among Chinese have increased in the last decade, the gap remains too large for the adoption of nutritional therapy guidelines which are based on statistical analysis of significantly different populations. For nutrition therapy guidelines to be applied to a group of cancer patients, the populations must be similar in terms of stored energy reserves. The studies cited in these guidelines reflect a population with body mass index (BMI) that is considerably higher than that of the population for whom the theoretical knowledge is being applied.

Body size and composition are important considerations for nutritional therapy in general, but the issue of nutritional deficiency in cancer patients is complex and multi-factorial. One important emerging factor is the relationship between infection and insulin resistance. Cancer patients are at increased risk for infection due to tumor effects on the immune system and treatment related side effects. Chemotherapy, radiation therapy, and surgery all place patients at greater risk for infection because these treatment modalities suppress the immune system or break down natural barriers of defense. It is known that elevated blood glucose levels are negative prognostic indicators for neutropenic cancer patients as well as surgical patients (12,13). The complex relationship between elevated blood glucose levels, infection, and patient outcomes makes it difficult to evaluate the risk and benefits of aggressive nutritional therapy in cancer patients.

In conclusion, it is apparent that more research is necessary in the area of nutritional therapy for patients with malignancies especially in different populations.

The basic principles of early identification of those with baseline nutritional deficit and those at risk for nutritional deficit related to treatment are described well in the paper. Additionally, the advantages of feeding via the enteral route when possible are well supported by the authors. The paper by CSCO reflects an important first step in putting evidence into practice to improve patient outcome and the quality of life of cancer patients in China.

Acknowledgements

Disclosure: The author declares no conflicts of interest.

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Cite this article as: McLaughlin L. Expert consensus on the nutritional therapy for patients with malignancies. *Chin Clin Oncol* 2013;2(3):20. doi: 10.3978/j.issn.2304-3865.2013.02.01