

Journal Watch (Anorexia/Cachexia)

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Fish oil, lean tissue, and cancer: Is there a role for eicosapentaenoic acid in treating the cancer anorexia/weight loss syndrome?

Jatoi A. *Critical Reviews in Oncology/Hematology* 2005; 55:37-43.

Abstract:

Eicosapentaenoic acid is an omega-3 fatty acid, a group of fatty acids characterized by a double bond that sits three carbons down from the n terminal of the molecule. Derived from dark, rich fish, eicosapentaenoic acid has received increasing attention as a therapy for the cancer anorexia/weight loss syndrome. Multiple studies, including laboratory and preliminary clinical studies suggest this fish oil derivative may benefit cancer patients. Recently, however, three large comparative studies suggest that eicosapentaenoic acids is relatively ineffective for treating this syndrome.

In view of these recent results, the goals of this review are as follows: (1) to provide background on the mandate for further study of the cancer-associated anorexia/weight loss syndrome; (2) to review the preliminary data that have suggested that eicosapentaenoic acid is a promising agent for treating this syndrome; (3) to review the methodology and findings of the more recent, definitive clinical trials; (4) to discuss and speculate on why the earlier positive findings drew conclusions that are discrepant from the results of more recent comparative clinical studies.

Cachexia and omega-3 polyunsaturated fatty acids: The beginning of the end or the end of the beginning?

Wilcock A. *Journal club feature. Palliative Medicine* 2005; 19:500-502.

Introduction:

The syndrome of cancer cachexia is common and difficult to treat. Two main mechanisms of cachexia are a reduced food intake and an abnormal host metabolism resulting from factors produced by the cancer, e.g. proteolysis inducing factor, or by the host in response to the cancer, e.g., cytokines. One outcome of this is a chronic inflammatory state, the level of which relates to the degree and rate of weight loss. A logical approach would be to address both of these mechanisms simultaneously and is the basis for the combination of a protein and energy dense nutritional supplement together with omega-3 polyunsaturated fatty acids (PUFA), e.g., eicosapentaenoic acid (EPA), available as ProSure[®]. Omega-3 PUFA inhibit the production and effect of various inflammatory and catabolic factors including cytokines and proteolysis inducing factor. In an open study of patients with cancer

of the pancreas, two cans/day of a nutritional supplement containing omega-3 PUFA (essentially ProSure[®]) converted a weight loss of 3 kg / month into a weight gain of 1 kg / month. This journal club reviews two more recent multicentre, randomized, double-blind, controlled studies that used the same supplement but whose findings questions the benefit of omega-3 PUFA in the management of cancer cachexia.

Comments:

Strengths/uniqueness:

These two reports highlight the difficulty of doing research in this area, and doing it sufficiently well to produce meaningful outcomes.

Weakness:

These reports are more in the nature of general reviews than systematic reviews.

Relevance to Palliative Care:

Despite the initial enthusiasm, there is increasing evidence that omega-3 fatty acids do not have the benefit to cancer cachexia patients that was initially hoped. This highlights the caution to avoid over enthusiastic adoption of approaches based on limited evidence, as further better designed randomized control trials can result in disappointing outcomes.