

Definition of Cancer Cachexia: Effect of Weight Loss, Reduced Food Intake, and Systemic Inflammation on Functional Status and Prognosis.

Fearon KC, Voss AC, Hustead DS. Am J Clin Nutr 2006; 83(6):1345-1350.

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Abstract:

BACKGROUND: Cancer cachexia is a multifactorial syndrome that is poorly defined. **OBJECTIVE:** Our objective was to evaluate whether a 3-factor profile incorporating weight loss (> or = 10%), low food intake (< or = 1500 kcal/d), and systemic inflammation (C-reactive protein > or = 10 mg/L) might relate better to the adverse functional aspects of cachexia and to a patient's overall prognosis than will weight loss alone. **DESIGN:** One hundred seventy weight-losing (> or = 5%) patients with advanced pancreatic cancer were screened for nutritional status, functional status, performance score, health status, and quality of life. Patients were followed for a minimum of 6 mo, and survival was noted. Patients were characterized by using the individual factors, > or = 2 factors, or all 3 factors. **RESULTS:** Weight loss alone did not define a population that differed in functional aspects of self-reported quality of life or health status and differed only in objective factors of physical function. The 3-factor profile identified both reduced subjective and objective function. In the overall population, the 3 factors, > or = 2 factors, and individual profile factors (except weight loss) all carried adverse prognostic significance ($P < 0.01$). Subgroup analysis showed that the 3-factor profile carried adverse prognostic significance in localized (hazard ratio: 4.9; $P < 0.001$) but not in metastatic disease. **CONCLUSIONS:** Weight loss alone does not identify the full effect of cachexia on physical function and is not a prognostic variable. The 3-factor profile (weight loss, reduced food intake, and systemic inflammation) identifies patients with both adverse function and prognosis. Shortened survival applies particularly to cachectic patients with localized disease, thereby reinforcing the need for early intervention.

Comments:

Strengths/uniqueness:

The article by Fearon et al. looks at a large cohort of patients with unresectable pancreatic cancer, who were studied in detail in the context of a clinical trial of nutritional intervention. The present work is a secondary analysis of a number of features of the patient population. Fearon et al. propose that weight loss is a crude measure and weight loss >10% versus <10% is not predictive of survival, physical

function, performance status, incidence of dyspnea or fatigue, or quality of life. However, if one or both of the following factors are also present, then this cluster of features is predictive.

- a) C-reactive protein, an index of systemic inflammation
- b) dietary intake <1500 kcal/day

Interestingly, the prognostic value of the index of intake + CRP + weight loss >10%, seems entirely attributable to CRP. The authors propose that the definition of cachexia is thus weight loss >10%, with the simultaneous presence of CRP >10 mg/L and dietary intake <1500 kcal.

Weaknesses:

The definition of cachexia proposed by these authors would appear to lack practicality in settings where neither dietary intakes nor CRP are routinely measured.

Relevance to Palliative Care:

Cachexia is a common and significant problem in palliative cancer patients.

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