

## Journal watch

### Upper gastrointestinal symptoms in patients with advanced cancer: relationship to nutritional and performance status G. Bovio, G. Montagna, C. Bariani, P. Baiardi

**Reference:** Supportive Care in Cancer. Published online Feb 9, 2009.

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#### Abstract

**Goals of work:** The goals of the study were to determine the relationship of upper gastrointestinal symptoms with nutritional status and to assess their association with performance status in patients with advanced cancer.

**Materials and methods:** We studied 143 patients (50 F, 93 M, mean age  $68 \pm 11$  years, mean body mass index  $22.39 \pm 4.3$  kg/m<sup>2</sup>). Assessed symptoms were the following: anorexia, nausea, vomiting, dysphagia for solids, dysphagia for liquids, xerostomia, hypogeusia, dysgeusia, hiccup and chewing disturbances. We determined anthropometric parameters, daily energy intake and serum albumin, prealbumin and transferrin.

**Main results:** The most common upper gastrointestinal symptoms were xerostomia (73%), anorexia (49%) and chewing disturbances (40%). Fifty-four percent of patients had weight loss greater than 10%. Seventy-three patients (51%) had daily energy intake lower than their resting energy expenditure. Mean serum prealbumin, albumin and transferrin were below normal range. Mean Eastern Cooperative Oncology Group performance status scale was  $3.1 \pm 0.49$ . Symptoms were often strongly correlated, and usually, patients experienced at least three upper gastrointestinal symptoms at the same time. Anorexia, nausea and vomiting were the symptoms mostly correlated with other symptoms. A correlation was found between vomiting and hiccup. Energy intake (EI) was the nutritional parameter mostly affected by upper gastrointestinal symptoms; moreover, EI is the most predictive factor of upper gastrointestinal symptoms, particularly xerostomia, anorexia and dysphagia for solids.

**Conclusions:** Upper gastrointestinal symptoms are linked to nutritional parameters: In particular, energy intake represents the most predictive variable of symptom occurrence. The performance status is not affected by upper gastrointestinal symptoms. A rigorous nutritional assessment and the managing of upper gastrointestinal symptoms are crucial in patients with advanced cancer.

#### Strengths:

- Thorough look at gastrointestinal symptoms.
- Good analysis (logistic regression, non parametric correlation analysis) to see if there is a correlation between certain GI symptoms, nutritional status and performance scores.
- Study shows the importance of EI in patients with advanced cancer.

- General patient population used was in a tertiary hospital – can relate to our patient population.
- No previous studies comparing GI symptoms, nutritional status and performance status.
- Large study of 143 patients,

**Weaknesses:**

- Used 24h-recall to assess daily energy intake (even I forget everything I ate yesterday),
- Recall weight 6months prior to admission (90%).
- Did not analyze correlation with quality of life – may have been good to see how much these symptoms were associated with depression, anxiety.

**Relevance to Palliative Medicine:** Gastrointestinal symptoms are present in a large number of patients with advanced cancer and they can affect a patient’s nutritional status. Though evaluation of these symptoms does not change performance status, careful evaluation of these symptoms and their possible treatments on admission may contribute to improving the quality of life in these patients. This study determined that if patients are not receiving adequate nutrition to cover their resting energy expenditure they are more likely to develop symptoms such as Xerostomia, anorexia, and dysphagia with solids. Maybe improving EI by treating GI symptoms will help patient be stronger which may in turn help improve performance status? Maybe a study seeing if improved nutritional status affects performance status could be done.

<b>ECOG PERFORMANCE STATUS*</b>	
<b>Grade</b>	<b>ECOG</b>
0	Fully active, able to carry on all pre-disease performance without restriction
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work
2	Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours
3	Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
4	Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair
5	Dead

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*Oken, M.M., Creech, R.H., Tormey, D.C., Horton, J., Davis, T.E., McFadden, E.T., Carbone, P.P.:  
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