Letter to Editor

Tube-Enteral Feeding for Frail Elderly Patients with Oropharyngeal Dysphagia—Not Only Yes or No, but When?

Key Words  tube-enteral feeding, frail elderly, oropharyngeal dysphagia, long-term care

To the Editor:

Feeding dependency and oropharyngeal dysphagia are common conditions among frail and demented elderly patients on long-term care with a prevalence reaching up to 60% (1, 2). Feeding is further complicated by the medical conditions of these patients (poor cooperation, refusal) and by institutional factors (understaffing and insufficiently motivated personal) (3, 4). With time feeding becomes increasingly difficult for the patient, inefficient and even dangerous, thus bringing the issue of tube-enteral feeding into consideration. This decision involves medical, emotional and ethical issues that confront medical staff as well as the families of patients (5). Therefore, it may take time, creating a vulnerable period that could expose such patients to the adverse consequences of undernutrition (6). On the other hand, hesitations could be related to the fact that the clinical benefits of prolonged tube feeding to prevent aspiration and improve survival have been questioned in recent years (7, 8). Likewise follow up of accepted laboratory (albumin level, hemoglobin) and anthropomorphic markers (BMI) were both described as insufficient (9, 10).

So, while the main focus is put on the question whether to tube feed or not, some patients could develop nutritional deficits. A state of subclinical undernutrition could develop in spite of apparent satisfactory standard nutritional parameters and be masked by the multiple comorbidities that characterize these patients. Two studies we completed in the last few years support this assumption with regard to homocysteine (11) and CD4 (12). In these studies we compared complex long-term care patients on naso-gastric tube feeding with similar orally fed complex long-term care patients in various stages of oropharyngeal dysphagia. The results show that in spite apparently satisfactory classical nutritional parameters, orally fed patients had high levels of homocysteine and low CD4 counts. The consequences of these two conditions may be related to worsening of the cardiovascular and the cognitive status and the deterioration of immunocompetence (13, 14). The status of the trace elements, as we have recently shown, also seems to affect the vulnerability of this population (15).

Moreover, the risk of developing pressure wounds in frail elderly patients is high and closely connected with our ability to address nutritional deficiency as early as possible (16, 17).

Thus, the question should be not only to initiate enteral feeding or not but when we should do it in order to avoid deterioration and complications beyond an irreversible point. It is possible that in some cases, decisions to initiate tube-enteral feeding are taken too late. This is also a weak methodological point of those studies that suggest that it is a futile procedure. Their monitoring starts on the day the feeding tube is inserted, without satisfactorily documenting the period of feeding difficulties that preceded it.

We suggest that the point of when should be defined before the yes-or-no discussion and that clinical guidelines for this purpose should be developed.

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REFERENCES
1) Shanley C, O’loughlin G. 2000. Dyaphagia among nursing home residents: an assessment and management protocol. J Gerontol Nurs 26: 35–48.
2) Refai W, Seidner IDL. 1999. Nutrition in the elderly. Clin Geriatr Med 15: 607–625.
3) Carrier N, West GE, Quellet D. 2006. Cognitively impaired residents’ risk of malnutrition is influenced by foodservice factors in long term care. J Nutr Elder 25: 73–87.
4) Woo J, Chi L, Hui E, Chan F, Sham A. 2005. Low staffing level is associated with malnutrition in long-term residential care homes. Eur J Clin Nutr 59: 474–479.
5) Lubart E, Leibovitz A, Habot B. 2004. Attitudes of relatives and nursing staff toward tuboenteral feeding in severely demented patients. Am J Alzheimers Dis Other Demen 19: 31–34.
6) Leibovitz A, Rosenfeld V, Madjar J. 2005. Tube-enteral feeding for elderly demented patients with oropharyngeal dysphagia—not only yes or no, but when? Presented at The 3rd Annual Congress International Academy on Nutrition and Aging, 2005, Saint Louis, USA. J Nutr Health Aging 9: 139 (abstract).
7) Gillick M. 2000. Rethinking the role of tube feeding in patients with advanced dementia. N Engl J Med 342: 206–210.
8) Mitchell S, Berkowitz R, Lawson F, Lipsitz L. 2000. A cross national survey of tube feeding decisions in cognitively impaired older persons. J Am Geriatr Soc 48: 391–397.
9) Henderson C, Trumbore L, Mobaran S, Benya R, Miles T. 1992. Prolonged tube feeding in ltc: nutritional status and clinical outcome. J Am Coll Nutr 11: 309–325.
10) Leibovitz A, Ben-Ami S, Zlotnik J, Baumoeih Y, Segal R. 2005. Plasma levels of amino acids in elderly long term care residents with oropharyngeal dysphagia. Comparison of hand-oral with tube-ental-fed patients. *Amino Acids* **29**: 263–266.

11) Leibovitz A, Sela B-A, Habot B, Gavendo S, Lansky R, Avni Y, Segal R. 2002. Homocysteine blood level in long-term care residents with oropharyngeal dysphagia: comparison of hand-oral and tube enteral fed patients. *JPEN J Parenter Enteral Nutr* **26**: 94–97.

12) Leibovitz, A. Sharon-Guidetti A, Segal R, Blavat L, Peller S, Habot B. 2004. CD4 Lymphocyte count and CD4/CD8 ratio in elderly long-term care patients with oropharyngeal dysphagia: Comparison between oral and tube enteral feeding. *Dysphagia* **19**: 83–86.

13) Chandra RK. 1997. Nutrition and the immune system: an introduction. *Am J Clin Nutr* **66**: 460S–463S.

14) Malouf R, Grimley Evans J. 2008. Folic acid with or without vitamin B12 for the prevention and treatment of healthy elderly and demented people. *Cochrane Database Syst Rev* **8**: CD004514.

15) Leibovitz A, Lubart E, Wiinstein J, Dror Y, Segal R. 2009. Serum trace elements in elderly frail patients with oropharyngeal dysphagia. *J Nutr Sci Vitaminol* **55**: 407–411.

16) Hengstermann S, Fischer A, Steinhagen-Thiessen E, Schulz RJ. 2007. Nutrition status and pressure ulcer: what we need for nutrition screening. *J Parenter Enteral Nutr* **31**: 288–294.

17) Hudgens J, Langkamp-Henken B, Stechmiller JK, Herrlinger-Garcia KA, Nieves C. 2004. Immune function is impaired with a mini nutritional assessment score indicative of malnutrition in nursing home elders with pressure ulcers. *J Parenter Enteral Nutr* **28**: 416–422.

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