Abstract

Background and aims: Dysphagic patients who underwent endoscopic gastrostomy (PEG) usually present protein-energy malnutrition, but little is known about micronutrient malnutrition. The aim of the present study was the evaluation of serum zinc in patients who underwent endoscopic gastrostomy and its relationship with serum proteins, whole blood zinc, and the nature of underlying disorder.

Methods: From patients that underwent gastrostomy a blood sample was obtained minutes before the procedure. Serum and whole blood zinc was evaluated using Wave-length Dispersive X-ray Fluorescence Spectroscopy. Serum albumin and transferrin were evaluated. Patients were studied as a whole and divided into two groups: head and neck cancer (HNC) and neurological dysphagia (ND).

Results: The study involved 32 patients (22 males), aged 43-88 years: HNC = 15, ND = 17. Most (30/32) had low serum zinc, 17/32 presented normal values of whole blood zinc. Only two, with traumatic brain injury, presented normal serum zinc. Serum zinc levels showed no differences between HNC and ND patients. There was no association between serum zinc and serum albumin or transferrin. There was no association between serum and whole blood zinc. Conclusions: Patients had low serum zinc when gastrostomy was performed, similar in HNC and ND, being related with prolonged fasting and unrelated with the underlying disease. Decrease serum zinc was unrelated with low serum proteins. Serum zinc was more sensitive than whole blood zinc for identifying reduced zinc intake. Teams taking care of PEG-patients should include zinc evaluation as part of the nutritional assessment, or include systematic dietary zinc supply.

Keywords

Key words, Zinc, Gastrostomy, PEG, Dysphagia, Malnutrition.