



**Karolinska
Institutet**

Institutionen för klinisk vetenskap, intervention och teknik

Nutritional follow-up of patients with head and neck cancer

AKADEMISK AVHANDLING

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ABSTRACT

Head and neck (H&N) cancer constitutes approximately 5.1% of all cancers worldwide and 2.2% in Sweden. It is a heterogeneous group of malignant tumours with differences in natural history and prognosis. The treatment is often multiple, where the main treatment modalities are external beam radiotherapy (RT) and surgery. For many patients with H&N cancer, nutritional problems are an immense and complex range of challenges. If the patient cannot swallow and the gastrointestinal tract is functioning normally, nutritional support is mainly given with enteral nutrition. The most common way to administer enteral feeding is via a polyurethane nasogastric feeding tube (NGT) or via a percutaneous endoscopic gastrostomy (PEG) tube. In this thesis different cohorts of patients with H&N cancer have been studied with the ultimate goal to identify patients in need of nutritional support and to improve nutritional surveillance.

Study I The predictive value of systematic inflammatory and metabolic markers was prospectively studied in 27 patients with H&N cancer undergoing RT. All patients lost body weight with the greatest loss at the end of RT. Highly sensitive C-reactive protein (hsCRP) increased during RT. None of the systemic inflammatory and metabolic markers was significantly associated with body weight loss.

Study II A retrospective study of consecutive patients who received a PEG tube is presented. Of the 171 patients planned for PEG, 156 were successfully carried out, while the attempt failed in 15 patients. The duration of PEG tube usage varied considerably. Complications were seen in 42% (n=65) of the patients. Seven patients (5%) had fatal complications related directly or indirectly to the PEG tube placement, 33 patients (21%) had severe complications and 25 patients (16%) had minor complications.

Study III Consecutive patients (n=157) with H&N cancer who were seen for nutritional control at a nurse-led outpatient clinic were evaluated for factors known to contribute to body weight loss. Nadir of body weight was observed at 6 months after RT. In total, 92 patients (59%) with no evidence of residual tumour after treatment received enteral nutrition. Patients that maintained oral feeding did not lose as much body weight as patients who received enteral nutrition. Tumour stage was the only independent predictive factor of maximum body weight loss. Body weight loss was not found to be associated with post-operative infections or mortality.

Study IV Using a descriptive, prospective design, semi-structured interviews about what in life is influenced by disease and feeding (oral feeding, NGT or PEG) were conducted in 41 patients with H&N cancer. More than 50% of the patients manifested eating-related problems. No significant differences in life areas (e.g., fatigue, pain, nutrition and social and family life) influenced by disease were observed over time between oral feeding and enteral nutrition. Furthermore, no differences were noted between patients having NGT or PEG, except that patients with NGT expressed negative views regarding social limitations and patients with PEG felt confined by the tube.

The conclusions of this thesis are that body weight and CRP are valuable variables to follow-up. The risk for complications because of PEG ought to be considered when deciding on an enteral nutrition method of feeding. NGT should be regarded as the first choice of enteral nutrition in patients with an expected limited time of tube feeding, whereas in patients in which prolonged treatment is needed PEG could be the choice for most patients. The extended body weight loss after treatment indicates that a nutritional surveillance programme (e.g. managed by a nurse-led outpatient clinic) is important before, during but not in the least after treatment.

Key words: Head and neck cancer, Radiotherapy, Body weight loss, Nutrition, Enteral nutrition, Percutaneous endoscopic gastrostomy (PEG), Nasogastric feeding tube (NGT), SEIQoL, Quality of Life.

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