

## Abstract AHNS

Effects of an artificial hypercaloric and hyperproteic feeding on nutritionnal status in post-surgery head and neck cancer patients.

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### Introduction

Weight loss and malnutrition are a large problem in head and neck cancer patients after surgical treatment and related to adverse outcome. The aim of this retrospective observational study was to investigate whether an artificial hypercaloric feeding following surgery could slow weight loss and improve nutritional biological parameters.

### Methods

During one year, data from 30 patients (21 male, 9 female,  $59.5 \pm 8.8$  yrs old, BMI:  $22.0 \pm 4.4$  kg/m<sup>2</sup> before surgery) hospitalized for head and neck oncological surgery were analysed. All patients were artificially nourished (enteral and/or parenteral feeding, 30 Kcal/Kg/d and 1.5 g protein/Kg/d). Data were recorded in our local nutritional program (NutriCHU) including daily energetic and proteic intake and weekly evolution of body weight and biological parameters (plasma concentrations of total protein, albumin, transthyretin). Statistical analysis were performed on the first and the last data of each parameter measured during hospitalisation. Results were analysed for the whole patients (WP), but also according to patients nutritional status before surgery and then divided in two groups: malnourished group (MG, n=14) and non-malnourished group (NMG, n=16).

### Results:

Hospital length-of-stay was  $27.8 \pm 16.7$  days in WP, but significantly longer in MG ( $30.8 \pm 16.1$  days) vs NMG ( $25.1 \pm 17.4$  days). Post-operative weight loss was significant in WP ( $-2.7 \pm 3.7$  kg,  $p < 0.01$ ) and in NMG ( $-3.1 \pm 3.1$  kg,  $p < 0.01$ ), but not in MG ( $-2.3 \pm 4.5$ , NS). In WP, total protein and albumin plasma concentrations did not significantly increase, but transthyretin plasma concentration increased (from  $0.2 \pm 0.08$  to  $0.27 \pm 0.08$  g/L,  $p < 0.01$ ). In MG, plasma concentrations of all measured biochemical parameters significantly increased during artificial feeding: total protein from  $61.6 \pm 12.9$  to  $73.6 \pm 6.8$  g/L,  $p < 0.01$ , albumin from  $28.4 \pm 4.7$  to  $37.5 \pm 3.7$  g/L,  $p < 0.01$  and transthyretin from  $0.16 \pm 0.05$  to  $0.29 \pm 0.06$  g/L,  $p < 0.01$ . In NMG, a significant decrease in total protein (from  $76.6 \pm 4.7$  to  $69.9 \pm 6.1$  g/L,  $p < 0.01$ ), albumin (from  $42.1 \pm 3.4$  to  $36.7 \pm 2.8$  g/L,  $p < 0.01$ ), but not in transthyretin plasma concentrations were observed.

### Conclusion:

An artificial hypercaloric and hyperproteic feeding cannot prevent a significant weight loss in post-surgery head and neck cancer patients, may be due to inadequate protein

and caloric goals in these patients.. Our results concerning the evolution of some plasma nutritional parameters are challenging with a significant increase of total protein, albumin and transthyretin in malnourished patients before surgery, but a significant decrease of these parameters (except transthyretin) in non-malnourished patients. Others studies seem necessary to evaluate whether specific nutritional supplies are necessary for these patients according to their preoperative nutritional status.