

## **Immunonutritional Prognostic Factor and Oral Status after Neoadjuvant Chemotherapy in Esophageal Cancer Patients**

### **Objective**

The Prognosis Nutrition Index (PNI) is a useful prognostic factor of surgical risk and survival involving evaluation of preoperative immunonutritional status in patients undergoing cancer surgery. The nutritional status is compromised during neoadjuvant chemotherapy in some patients. The purpose of this study was to examine the relationship between the oral status and the changes of PNI of patients with esophageal cancer during neoadjuvant chemotherapy.

### **Methods**

This retrospective study included 42 consecutive patients underwent resection of esophageal cancer (M/F: 40/2, mean age:  $65.0 \pm 9.3$ , range: 36-82) in 2012. They were taken neoadjuvant chemotherapy. BMI, cancer stage, drinking and smoking habit, numbers of present, sound, decayed (D), missing (M) and filled (F), DMF teeth, Community Periodontal Index, frequency of tooth brushing and occlusal support (Eichner Index) were recorded at the first dental examination. PNI before and after neoadjuvant chemotherapy was calculated based on the serum albumin concentration and peripheral blood lymphocyte counts, and the subjects were divided in a higher and lower PNI groups (PNI > 40,  $n = 37$  and PNI  $\leq 40$ ,  $n = 5$ , respectively) after neoadjuvant chemotherapy. These parameters were compared between the higher and lower PNI groups by Mann-Whitney *U* test and chi square test.

### **Results**

Subjects in the lower PNI group had significantly fewer sound teeth and more DMF teeth than those in the higher PNI group after neoadjuvant chemotherapy ( $P < 0.05$ ). In 4 patients in lower PNI group ( $n=5$ ), the PNI decreased less than 40 during neoadjuvant chemotherapy. The 4 patients had less than 40 during neoadjuvant chemotherapy in four patients who had less than 2 sound teeth and more than 27 DMF teeth. There were no significant differences in other parameters between the groups.

### **Conclusions**

Oral status, especially less sound teeth and more DMF teeth might be associated with decreasing PNI during neoadjuvant chemotherapy.