PROGNOSTIC NUTRITIONAL INDEX SCORE IS USEFUL TO PREDICT POST-OPERATIVE MORTALITY AND MORBIDITY IN GASTRIC CANCER
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Introduction: Evaluating post-operative morbidity and mortality in the surgery of digestive cancers is a real challenge for any surgeon. To do so, there are scores such as the ASA physical status score, the Charlson score, the POSSUM score and the PNI (prognostic nutritional index) score. These scores, which assess the fitness of patients before surgery, allow to plan the therapeutic strategy and thus schedule surgery after a control of disorders (high blood pressure, diabetes, coronary syndrome), a transfusion (anemia), a high-calorie and /or high-protein diet (hypoalbuminemia). The Prognostic Nutritional Index (PNI) score is based on the level of lymphocytes and albuminemia, described in 1983 by Buzby and modified by Onodera in 1984.

The aim of this study was to validate the pre-operative PNI score for predicting post-operative mortality and morbidity risks for patients operated for gastric cancer and assess the performance of this score.

Patients and methods: This retrospective study collected data from patients aged more than 18 operated on for a gastric cancer at the surgical unit B of Charles Nicolle’s hospital in Tunis between January 1st, 2008 and December 31, 2012. Patients suffering from a gastric cancer but non operated on have not been included. Patients with no available albuminemia and/or full blood count were excluded. The main outcome measure was post-operative death within 30 days. The secondary outcome was post-operative morbidity (within 30 days). We have performed a descriptive analysis and a ROC curve analysis.

Results: 14 women and 26 men were enrolled, with a sex ratio of 1,85. The mean age was 63 ± 15 (range 21-87 years). Post-operative mortality and morbidity rate were respectively 12% and 28%. The ROC curve allowed us to validate the PNI for predicting post-operative mortality in gastric cancer with a threshold level of 38 with sensitivity (area under the curve = 0,874 with p<0,002; CI 95%: 0.756-0.993) 100%, specificity 67%, positive predictive value 39% and negative predictive value 100%. PNI was also validated in gastric cancer for post-operative morbidity with a threshold level of 38 (area under the curve = 0,730 with p<0,026, CI 95%: 0.549-0.912) with sensitivity 81,8%, specificity 65,5%, positive predictive value 47,3% and negative predictive value 72,5%.

Conclusion: PNI has been validated for predicting post-operative mortality and post-operative morbidity in gastric cancer.