AB031. P001. The value of infectious biomarkers for prediction of complication after pancreatic surgery

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Background: To assess the predictive value of biomarkers for early complication after pancreatic surgery.

Methods: It was a multi-central, observational, prospective study. With 950 cases recruited from seven centers of China, procalcitonin (PCT), C-reactive protein (CRP) and white blood count (WBC) were measured in 1st, 3rd and 5th postoperative day (POD). Chi-square test was for the complication risk factors. One-way ANOVA was for the comparison between the biomarkers in these 4 days. Receiver operating characteristic (ROC) curves were for the complication predictive value. The ClinicalTrials.gov ID was NCT02878668.

Results: (I) There were 590 malignant and 360 benign pancreatic tumors; (II) 502 with and 448 without complication, pancreatic fistula (380, 40%) had the highest morbidity, while the level A, B and C fistula were 278, 90 and 12. Clavien-Dindo classification I–V were 163, 259, 24, 10 and 4, respectively. Hypertension, benign tumor was the risk factors of complication. Age >60 years, diabetes mellitus (DM), liver enzyme elevation, transfusion, intraoperative bleeding >200 mL and benign tumor were the risk factors of pancreatic fistula; (III) in the non-complication subgroup, the mean baseline, POD1, POD3 and POD5 of PCT were 0.10, 0.81, 0.93 and 0.57 µg/L (P=0.118); CRP were 8.39, 70.81, 99.59 and 49.49 mg/L (P=0.000). In the complication subgroup, the mean baseline, POD1, POD3 and POD5 of PCT were 0.09, 0.93, 0.77, 0.37 (P=0.000), CRP were 9.30, 79.70, 153.01, 85.83 (P=0.000); (IV) there were significant differences in the subgroups classified by occurrence of infectious complication, abdominal infection and sepsis in POD3 and POD5 of PCT, and significant difference by occurrence of complication, pancreatic fistula in POD3 and POD5 of CRP, WBC and neutrophil%; (V) the area under the curve (AUC) of POD3 and POD5 of PCT were 0.8, 0.7 and 0.6 (P=0.000) for the prediction of sepsis, abdominal infection and infectious complication. AUC of POD3 and POD5 of CRP and WBC were 0.7 and 0.6 (P=0.000) for the prediction of complication and pancreatic fistula.

Conclusions: PCT is better in the prediction of infectious complication, abdominal infection and sepsis while CRP, WBC and Neutrophil percentage are better in the prediction of complication and pancreatic fistula.