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Evaluation of P-POSSUM Risk Scoring System in Prediction of Morbidity and Mortality after Pancreaticoduodenectomy (PD)

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Abstract
Background: POSSUM and P-POSSUM are risk scores recommended by ERAS Society for the preoperative evaluation of patients undergoing major surgery.
Methods: This study includes 113 consecutive pancreaticoduodenectomy performed in a single centre between July 2013-December 2015. Patients data were prospectively collected using Excel 2009 and retrospectively analysed with R v3.2.4 software. Biological status score, surgical severity score and risk scores for complications and death were calculated using: http://www.riskprediction.org.uk/index-pp.php.
Results: Morbidity rate was 61,95%: 19,47% general complications, 14,16% wound infections and 28,32% PD specific complications (11,5% POPF; 8,85% DGE and 6,19% PPH). Comparing the observed and estimated morbidity and mortality, we obtained statistical significant results (p=0,05 and p=0,03, respectivelly). When we considered only specific PD complications and subsequent mortality, there was no longer significant difference between observed and estimated values (p=0,8 and p=0,86).The under ROC curve aria was 0,61 for morbidity and 0,64 for specific PD morbidity, respectively 0,61 for mortality and 0,68 for specific PD complications related mortality.
Conclusion: P-POSSUM represents a useful tool for appreciating the complication and death risk after PD, but better results could be obtain by considering also specific PD risk factors.
Key words: cephalic pancreaticoduodenectomy, P-POSSUM score, postoperative morbidity, mortality