

Modified Blumgart Anastomosis in Patients Undergoing Robotic Pancreaticoduodenectomy: The Results of a Preliminary Experience

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ABSTRACT

Backgrounds: Several anastomoses have been described for the reconstruction of the pancreatic stump after pancreaticoduodenectomy. No technique showed a superiority over the others in terms of post-operative pancreatic fistula formation (POPF) in open neither during a minimally invasive approach.

Methods: We compared the surgical outcomes of fourteen patients classified as high-risk for POPF who underwent a Blumgart anastomosis (BA) with that of patients who underwent a Cattell-Warren (CW). A 1:1 case-matched analysis was performed according to the variables of the risk score for post-operative pancreatic fistula (POPF) formation.

Results: The overall operative time was similar (373 ± 115 vs 398 ± 127 min, $p=0.567$) while fashioning of the CW anastomosis required a longer time (38 ± 21 vs 29 ± 10 , $p<0.05$). The overall morbidity rate was comparable among the two groups ($p=0.273$), while the incidence of clinically relevant-POPF was lower in the BA group (0 vs 3, $p<0.05$). No differences were observed in reoperation rate ($p=0.445$) and in postoperative length of stay (11.5 vs 12.6 , $p=0.367$).

Conclusion: The BA anastomosis is a potential alternative to the CW technique in a high-risk population for POPF formation. It shows benefits in terms of shorter anastomotic time and lower rate of clinically relevant-POPF.

Key words: robotic pancreatic surgery, robotic pancreaticoduodenectomy, blumgart anastomosis, pancreatico-jejunostomy, pancreatic fistula, surgical outcomes