

A 30-Year Celebration of the “Dagradi-Serio-Iacono Operation”. Systematic Review of Central Pancreatectomy and Meta-Analysis *Versus* Distal Pancreatectomy

Calogero Iacono, Giuseppe Verlato, Andrea Ruzzenente, Tommaso Campagnaro, Claudio Bacchelli, Alessandro Valdegamberi, Fabio Bagante, Simone Conci, Alfredo Guglielmi

Unit of Hepato-Pancreatico-Biliary-Surgery, Department of Surgery,
University of Verona Medical School. Verona, Italy

Context Central pancreatectomy (CP), first performed by Dagradi and Serio in 1982 and described in 1984, validated and popularized worldwide by Iacono, is a parenchyma-sparing surgical procedure that allows removing benign and/or low grade malignant lesion from the neck and proximal body of pancreas.

Objectives The aim of the study was to evaluate, from all published studies, short- and long-term surgical results of CP and to evaluate results of comparative studies *versus* distal pancreatectomy (DP). **Methods** All published studies between 1988 and December 2010 were systematically reviewed. Results of comparative studies, comparing CP versus DP, were pooled by standard meta-analytic techniques using the random effects model. **Results** Ninety-one studies with 1,013 cases of CP were recognized and included in the systematic review. Nine-hundred and eighty-three open resection were performed, 30 laparoscopic, 11 of whom were robotic assisted. Postoperative morbidity rate was 39.54%; pancreatic fistula rate was 29.32%. Endocrine and exocrine pancreatic insufficiency were reported in 4.55% and 8% of patients, respectively.

Overall mortality rate was 0.82%. Twelve comparative studies, including 359 patients submitted to CP and 480 to DP, were analyzed for meta-analysis. Surgical operation time, blood loss, length of stay, morbidity and exocrine failure presented a significant heterogeneity across studies; re-operation, endocrine failure and pancreatic fistula did not presented significant heterogeneity. CP had a higher post-operative morbidity, with higher incidence of pancreatic fistula compared to DP. However, the odds ratio for post-operative endocrine insufficiency was 0.27, revealing a statistically significant benefit to CP ($P<0.001$). The odds ratio for exocrine failure was 0.59, but it was not significant ($P=0.082$) because of the large heterogeneity among studies. **Conclusion** Systematic review and meta-analysis confirmed CP as a safe surgical procedure with good long term functional reserve although with a low increasing of morbidity (pancreatic fistula) when compared to DP. The “Dagradi-Serio-Iacono operation” must be considered, with specific indication, not an alternative to DP, but rather a standard surgical procedure.