Improving outcomes of pancreatic surgery

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CHAPTER 10

Pancreas-preserving surgical interventions during relaparotomy for pancreatic fistula after pancreatoduodenectomy

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TO THE EDITOR

With great interest we read the study by Garnier et al.[1] regarding their four-step standardized technique during completion pancreatectomy for pancreatic fistula after pancreatoduodenectomy. They conclude that their standardized technique appears to be relatively safe, reproducible, and could be particularly useful for young surgeons. Although we support standardization of this technique, we don't agree with the additional statements that pancreas-preserving surgical interventions are associated with more reoperations and mortality and that simple surgical drainage should not be adopted.

Within the Dutch Pancreatic Cancer Group, we recently compared 36 patients undergoing completion pancreatectomy and 126 patients undergoing a pancreas-preserving intervention during the first relaparotomy for pancreatic fistula after pancreatoduodenectomy.[2] Mortality was higher after completion pancreatectomy (odds ratio after correction for confounders 2.55, 95% confidence interval 1.07-6.08). The proportion of additional reinterventions was not different between groups (64% vs 67%, P=0.76). Additionally, we conducted a meta-analysis on mortality and found a similar association (745 patients, odds ratio 1.99, 95% confidence interval 1.03-3.84).

A subgroup analysis by different pancreas-preserving surgical interventions is shown in Table 1. The groups did not differ at baseline (before first relaparotomy for pancreatic fistula) regarding previous reinterventions, organ failure and APACHE II score. Mortality was 29% following simple surgical drainage vs 37% (range 30-44%) for the other subgroups (P=0.341). Additional reinterventions were performed in 65% following simple surgical drainage vs 70% (range 60-83%) for the other subgroups (P=0.601).

Simple surgical drainage was not associated with more reinterventions or mortality in our cohort compared to other pancreas-preserving surgical interventions. Therefore, we believe that, after failure of percutaneous drainage, simple surgical drainage is a viable option in the management of pancreatic fistula following pancreatoduodenectomy.

Table 1. Subgroup analysis following different surgical interventions during relaparotomy for pancreatic fistula after pancreatoduodenectomy

		Pancreas-preserving surgical interventions during relaparotomy for pancreatic fistula												
		Simple surgical drainage		Other subgroups			Repair of pancreatic anastomosis		DAPR		DAPR with external wirsungostomy		Redo PJ		
		N	%	N	%	P-value[a]	N	%	N	%	N	%	N	%	P-value[b]
Total		80	63.5	46	**36.5**	-	**20**	**15.8**	**12**	**9.5**	**9**	**7.1**	**5**	**4.0**	-
Baseline at time of relaparotomy															
Previous reintervention		33	41.3	24	52.2	0.236	9	45.0	7	58.3	7	77.8	1	20.0	0.166
Organ failure 24h before*	**No**	43	54.4	25	55.6	0.848	14	70.0	7	58.3	3	33.3	1	25.0	0.235
	Single	26	32.9	13	28.9		6	30.0	2	16.7	3	33.3	2	50.0	
	Multiple	10	12.7	7	15.6		0	0	3	25.0	3	33.3	1	25.0	
Highest APACHE II score 24h before*	**Median (IQR)**	11 (8-14)		13 (9-16)		0.116	13 (7-17)		12 (10-16)		13 (12-15)		11 (10-14)		0.606
Postoperative day of first relaparotomy	**Median (IQR)**	9 (7-15)		10 (6-14)		0.871	10 (7-14)		13 (7-15)		9 (5-14)		4 (2-10)		0.668
Main outcomes after relaparotomy															
Mortality		23	28.8	17	37.0	0.341	6	30.0	5	41.7	4	44.4	2	40.0	0.785
Organ failure 24h after*	**No**	22	27.8	12	26.7	0. 752	7	35.0	3	25.0	1	11.1	1	20.0	0.894
	Single	18	22.8	8	17.8		4	20.0	2	16.7	1	11.1	1	25.0	
	Multiple	39	49.4	25	55.6		8	40.0	7	58.3	7	77.8	2	50.0	
Highest APACHE II score 24h after*	**Median (IQR)**	13 (11-17)		17 (13-21)		0.001	17 (11-21)		18 (16-23)		16 (14-21)		15 (15-17)		0.013
Additional reintervention		52	65.0	32	69.6	0.601	16	80.0	10	83.3	7	77.8	3	60.0	0.627
Secondary completion pancreatectomy		3	3.8	7	15.2	0.022	4	20.0	2	16.7	1	1.11	0		0.103

Abbreviations: DAPR: disconnection of pancreatic anastomosis with preservation of remnant; PJ: pancreatojejunostomy; APACHE: Acute Physiology And Chronic Health Evaluation; IQR: interquartile range

*Missing data: organ failure 24h before (N=2), highest APACHE II score 24h before (N=14), organ failure 24h after (N=2), highest APACHE II score 24h after (N=15)

[a] Comparison between simple surgical drainage and other subgroups

[b] Comparison between all pancreas-preserving interventions

REFERENCES

1. Garnier J, Ewald J, Marchese U, Delpero JR, Turrini O. Standardized salvage completion pancreatectomy for grade C postoperative pancreatic fistula after pancreatoduodenectomy (with video). *HPB (Oxford)* 2021.
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