

Pancreatic Injuries in Southern Malaysia: Our 5 years of experience

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INTRODUCTION

Traumatic pancreatic injury is a rare occurrence, constituting 0.2%-12% of total abdominal trauma cases, necessitating early detection to mitigate morbidity and mortality. The optimal management of such injuries remains a subject of debate. This retrospective observational study spans five years, focusing on our experiences in handling pancreatic injuries in southern Malaysia.

OBJECTIVE

Objective of the study describe non-operative management and operative management for blunt pancreatic injury.

CONCLUSION

Treatment options for pancreatic injuries vary based on institutional capabilities and patient status. While operative management is well-established, non-operative management demonstrates favorable outcomes for selected patients, highlighting the need for a nuanced approach in addressing traumatic pancreatic injuries.

METHODS

Patients aged over 13 with pancreatic injuries between January 2018 and December 2022, extracted from our surgical trauma registry and medical records collected in southern Malaysia level 1 trauma center.

RESULTS

Table 1: Patient and trauma characteristics

	Total n (%)	NOM n (%)	OM n (%)	p-value
Total Patients	43	16 (37.2%)	27 (62.8%)	
Gender				0.440
Male	33 (76.7%)	12 (36.4%)	21 (6.36%)	
Female	10 (23.3%)	5 (50.0%)	5 (50.0%)	
Age (year)				0.954
Mean (SD)	29.7 (14.4%)	29.8 (12.9%)	29.6 (15.5%)	
Mechanism				0.504
Blunt	43 (100%)	17 (39.5%)	26 (60.5%)	
Causes of blunt trauma				0.504
RTC	41 (95.3%)	17 (41.5%)	24 (58.5%)	
Fall from height	1 (2.3%)	0	1 (100%)	
Industrial injury	1 (2.3%)	0	1 (100%)	
Serum Amylase	374.3 (446.5)	430.4 (560.9)	334.7	0.579
NISS (Mean,SD)	26.6 (13.6)	21.9 (9.9)	29.6 (14.9)	0.067
AAST Grade				0.122
Grade 1	12 (27.9%)	6 (50.0%)	6 (50.0%)	
Grade 2	14 (32.6%)	6 (42.9%)	8 (57.1%)	
Grade 3	14 (32.6%)	4 (28.6%)	10 (71.4%)	
Grade 4	2 (4.7%)	1 (50%)	1 (50.0%)	
Grade 5	1 (2.3%)	0	1 (100%)	
ICU/NHCU admission				0.005
Yes	16 (37.2%)	2 (12.5%)	14 (87.5%)	
Length of ICU stay(days)				0.167
Mean (SD)	10.4(7.3)	3.0(1.4)	10.9(7.4)	
Length of hospital stay (days)				0.120
Mean (SD)	13.8(8.9)	11.2(7.3)	15.6(9.6)	
Death	4 (9.3%)	0	4 (100%)	0.14

The overall survival rate was 90.7%, with no mortality in the non-operative group. Mortality among the OM group (n=4) was not solely attributed to pancreatic injury.

Table 2: Distribution of accompanying abdominal injuries

	Alive (n=26) N (%)	Death (n=3) n (%)
None	11 (100%)	0
Solid	23 (92.0%)	2 (8.0%)
Hollow	3 (60.0%)	2 (40.0%)
Combined	2 (100%)	0

Table 3: Operation type, surgical procedure and complications

	Total (n=26) n (5%)	Alive (n=22) n (%)	Death (n=4) n (%)	p-value
Operation type				0.018
Emergency	24 (92.3%)	22 (91.7%)	2 (8.3%)	
Delayed	2 (7.7%)	0	2 (100%)	
Surgical procedure				0.475
i. Drainage and bleeding control	17 (65.4%)	13 (76.5%)	4 (23.5%)	
ii. Distal pancreatectomy	7 (26.9%)	7 (100%)	0	
iii. Extended distal pancreatectomy	1 (3.8%)	1 (100%)	0	
iv. Pancreatoduodenectomy	1 (3.8%)	1 (100%)	0	
Complication				
i. Fluid collection	0			
ii. Pancreatic fistula	2			
iii. Haemorrhagic pancreatitis	1			

Table 4: Non-operative management strategies and complications

	Total (n=17) n (%)	Death (n=0) n (%)
Endoscopic procedure		
None	12 (70.6%)	0
ERCP + pancreatic duct stenting	5 (29.4%)	0
Complication		
Pancreatic pseudocyst	1	
pancreatitis	1	
Bleeding	0	

Cause of death (n=4) (OM)

Severe head injury (Grade 5)	
Sepsis (bowel resection, leak)	Grade 3 Pancreatic injury
Myocardial infarction	Grade 2 Pancreatic injury
Nosocomial infection	Grade 2 Pancreatic injury