

Pancreaticoduodenectomy in grade V injuries

We read with interest the article by Choron and colleagues¹ reporting a retrospective multicenter analysis of 95 patients with the American Association for the Surgery of Trauma (AAST) grade IV–V duodenal and/or pancreatic injuries treated at 35 level 1 trauma centers during an 11-year period. The authors hypothesized that a pancreaticoduodenectomy (PD) does not result in improved outcomes when compared with non-PD surgical management of grade IV–V pancreaticoduodenal injuries and report an overall 20% mortality rate, 12.5% in the PD cohort and higher mortality of 23.8% in the non-PD group. The authors are to be commended for addressing this important topic, which corroborates previous reports that severe injuries involving both the head of the pancreas and the duodenum continue to be a major cause of morbidity and mortality.^{1–4}

There are several observations relevant to their data that merit consideration and discussion. First, the accurate selection of patients who require a PD and are likely to survive is crucial. Conventional surgical wisdom has been that combined grade V pancreaticoduodenal injuries with massive disruption and devascularization require a PD of necessity, often as a staged procedure. However, the authors suggest otherwise and propose instead that there are non-resection options and imply that there are two categories of grade V injuries, those that are severe, which require a PD, and those with lesser grade V injuries that can be treated without resection. This is contrary to accepted practice. AAST guidelines state that grade V injuries of the pancreas and duodenum constitute massive disruption of the pancreatic head and devascularization of the duodenum. There are no high-quality, high-volume level 1 trauma centre studies that advocate non-resection definitive management for grade V pancreatic or duodenal injuries. In view of their results with grade V injuries of both duodenum and pancreas, it would be important to fully understand the authors' rationale and selection criteria and have clarification on exactly which grade V injuries can safely be managed without resection. We note that in their study 32 trauma PDs were done in the 35 centers during an 11-year period,

indicating that some participating centers did not perform any PDs, whereas some centers only did one or two PDs over more than a decade, numbers that are not sufficient to provide proficiency in undertaking a complex procedure in high-risk patients.

Second, a further concern is that this is a retrospective, multicenter, multinational multilingual study using chart review. If we are to make meaningful progress in the management of this particularly difficult category of pancreaticoduodenal injuries, accurate assessment and standardization are crucial where PD resections have been applied in AAST-OIS grade V injuries. Accurate intraoperative evaluation and grading of major injuries of the pancreatic head are among the most demanding assessments trauma surgeons have to make. Although the AAST pancreas injury grading lexicon remains the most widely used global score to guide grade-specific pancreatic injury management during the index laparotomy and to provide a template for reporting injury profiles and treatment outcomes, over time several limitations that hinder precision and impair the application of these grade-specific guidelines have become evident.^{3,5} The lack of granularity and detail in the existing definition on the extent and magnitude, especially in grade V injuries, has resulted in ambiguous reporting, which compromises the accuracy of the existing grading system.⁵ We note that 9 of the 22 patients with this category of injury were treated with non-resection procedures, which does not square with the grade V AAST-OIS injury definition, and one wonders whether the preoperative cross-sectional imaging, if done, or operative assessment may have overcalled the injury staging and whether there was consistency in applying the AAST grade V definition accurately in this multicenter study where the procedure was seldom done. We think this study by Choron *et al* will stimulate further discussion on this important topic and look forward to the authors' clarification of the issues we have highlighted.

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Contributors JK and EJ contributed equally to drafting the letter. JK is the guarantor.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Ethics approval Not applicable.

Provenance and peer review Commissioned; internally peer reviewed.



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To cite Krige J, Jonas E. *Trauma Surg Acute Care Open* 2025;**10**:e001822.

Received 28 February 2025

Accepted 28 February 2025

Published Online First 18 March 2025

Trauma Surg Acute Care Open 2025;**10**:e001822.
doi:10.1136/tsaco-2025-001822

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