



Case Report

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# The Silent Killer: A Case Report of Delayed Diagnosis and Successful Treatment of Pancreatic Trauma



Saad Slaiki\*, Ouadii Mouaqit, El Bachir Benjelloun, Abdelmalek Ousadden, Khalid Ait Taleb and Hicham El Bouhaddouti

Visceral surgery department, CHU Hassan II, Fes, Morocco

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\*Corresponding author: Saad Slaiki, visceral surgery department, CHU Hassan II, Fes, Morocco

## Abstract

Isolated pancreatic trauma is a rare but potentially life-threatening injury. We present the case of a 27-year-old male who suffered from abdominal pain after a motor vehicle accident. Despite initial imaging studies showing a normal pancreas, subsequent laboratory and radiologic findings revealed a fracture isthmus of the pancreas with Balthazar E stage pancreatitis. Medical management was initiated, and the patient developed a pancreatic pseudocyst. Endoscopic cyst gastrostomy was successfully performed, and the patient had a full recovery without any complications. This case highlights the importance of considering pancreatic trauma in patients with abdominal pain after trauma and the need for timely diagnosis and management to prevent complications.

**Keywords:** Trauma; Abdominal; Isolated

## Introduction

Isolated pancreatic trauma is a rare but serious condition that can result in significant morbidity and mortality. Prompt diagnosis and management are essential to minimize complications such as pancreatitis, pseudocyst formation, and pancreatic fistulae [1]. In this article, we present a case report of isolated pancreatic trauma in a young man who suffered a car accident and discuss the diagnosis and management of this condition. We also review the current literature on isolated pancreatic trauma and highlight the challenges in its management.

## Case presentation

A 27-year-old man with no significant medical history was involved in a car accident and experienced epigastric pain upon impact of the steering wheel. Upon admission, the abdomen was tender, and an ultrasound revealed a fluid collection, suggesting the presence of hemoperitoneum. The pancreas appeared normal on imaging. Due to worsening symptoms, a lipase test was performed 24 hours after admission, which came back positive at 7 times the normal level. A CT scan showed an isthmus fracture of the pancreas with stage E Balthazar pancreatitis (Figure 1) (class IV according to American Association for the Surgery of Trauma classification) (Table 1), with possible involvement of the Wirsung duct. The patient was managed with medical treatment for pancreatitis and developed a pancreatic pseudocyst after

45 days (Figure 2). The patient later underwent endoscopic cystogastrostomy. The patient had a favorable outcome without any long-term effects.

## Discussion

Isolated pancreatic trauma is a rare but potentially serious complication of abdominal trauma. It can lead to a range of clinical symptoms, from mild abdominal pain to acute pancreatitis with potentially life-threatening complications. While pancreatic trauma accounts for only 2-5% of abdominal injuries, it has a mortality rate of up to 25% [2]. The pancreatic isthmus is the most exposed to frontal shocks due to its prevertebral anatomical location. The mechanism may be due to the intensity of the shock, which shears the pancreas in two on the posterior spinal block [3]. The management of pancreatic trauma requires a multidisciplinary approach, with collaboration between emergency physicians, radiologists, and surgeons. Initial management typically involves resuscitation, pain control, and close monitoring of pancreatic enzyme levels. In cases of severe pancreatitis or complications such as pseudocysts or abscesses, more aggressive interventions such as drainage or surgery may be required. The choice of intervention depends on the severity of the injury, the presence of associated injuries, and the patient's overall clinical condition [4].

Advancements in imaging technology have improved the diagnosis and management of pancreatic trauma. CT scan is

the gold standard imaging modality for diagnosing pancreatic injury, with a sensitivity and specificity of up to 95% [5]. MRI, ultrasound, and endoscopic ultrasound (EUS) can also be useful in certain cases. EUS has been shown to be particularly useful for diagnosing and managing pseudocysts, with a success rate of up to 90% for EUS-guided drainage [6]. Recent studies have focused on identifying predictors of poor outcomes in patients

with pancreatic trauma. One study found that patients with a pancreatic injury grade of III or higher according to the American Association for the Surgery of Trauma (AAST) grading scale had a significantly higher mortality rate compared to those with lower grades [7]. Another study found that an elevated serum lipase level at admission was associated with a higher risk of developing severe acute pancreatitis and a longer hospital stay [8].

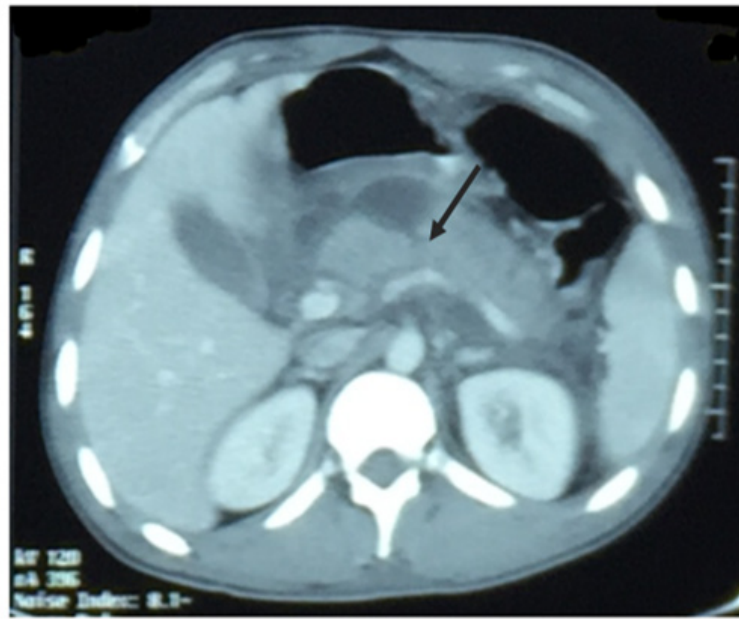


Figure 1: Clinical Photograph of the Hernia Lateral and Anterior View.

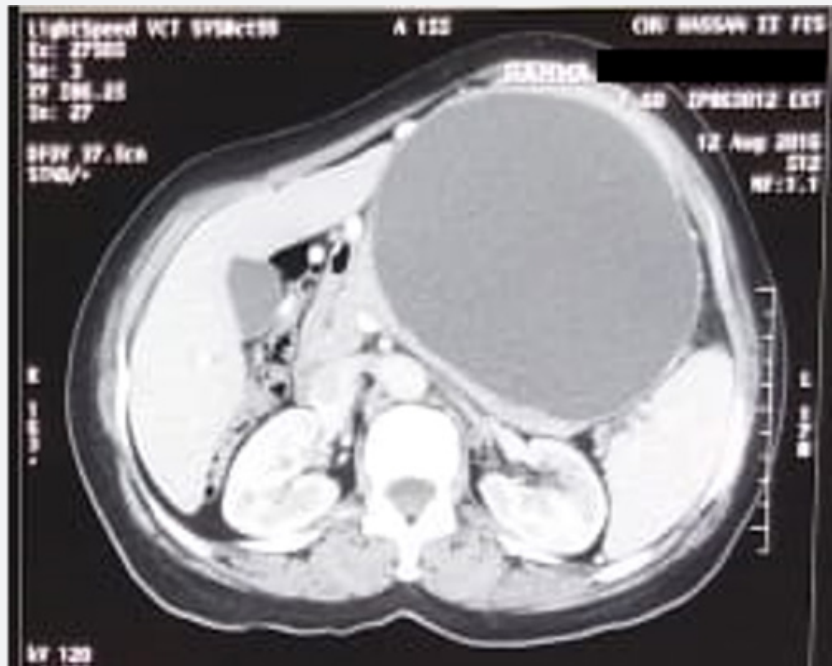


Figure 2: CT abdomen (axial view). Showing a pancreatic pseudocyst.

**Table 1:** American Association of the Surgery of Trauma classification of pancreatic trauma-Organ Injury Scale (AAST-OIS) [2].

Grade	Type of injury	Description of Injury
I	Hematoma	Minor contusion without duct injury
	Laceration	Superficial laceration without duct injury
II	Hematoma	Major contusion without duct injury or tissue loss
	Laceration	Major laceration without duct injury or tissue loss
III	Laceration	Distal transection or parenchymal injury with duct injury
IV	Laceration	Proximal transection or parenchymal injury involving ampulla
V	Laceration	Massive disruption of pancreatic head

In terms of treatment, recent studies have evaluated the efficacy and safety of minimally invasive techniques for managing pancreatic trauma. A systematic review found that percutaneous drainage was a safe and effective alternative to surgical drainage for the management of pancreatic pseudocysts [6,9]. Another study evaluated the use of laparoscopic surgery for the management of pancreatic injuries and found that it was associated with shorter hospital stays and fewer complications compared to open surgery [10].

### Conclusion

Pancreatic trauma is a rare but potentially serious complication of abdominal trauma that requires a multidisciplinary approach for management. Advancements in imaging technology and minimally invasive techniques have improved outcomes for patients with pancreatic trauma. Further research is needed to identify predictors of poor outcomes and to refine treatment algorithms for this patient population.

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