

## Case Report

# Conservative treatment using an endoscopic pancreatic stent in a patient with delayed diagnosis of pancreatic injury after blunt trauma: A case report

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## ABSTRACT

The diagnostic evaluation of pancreatic injuries has improved dramatically in recent years. However, it is sometimes difficult to diagnose pancreatic injuries. Surgical treatment after delayed diagnosis is associated with increased risks of mortality and morbidity. A 47-year-old man was referred to our emergency department after experiencing blunt abdominal trauma 5 d earlier. The patient was diagnosed with a grade-III pancreatic injury. His hemodynamic status remained stable. He was managed successfully using endoscopic pancreatic stenting and percutaneous drainage catheter insertion.

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## Introduction

The diagnostic evaluation of pancreatic injuries has improved dramatically in recent years [1]. However, it is sometimes difficult to diagnose pancreatic injuries due to the limited accuracy of diagnoses based on laboratory findings (serum amylase and lipase levels), diagnostic peritoneal lavage, ultrasound, and abdominal computed tomography (CT) [1,2]. Radiological imaging often fails to identify pancreatic injuries in the acute phase [3]. Advanced inflammation and autodigestion can occur in sites surrounding pancreatic injuries if diagnosis is delayed. Therefore, surgical treatment after delayed diagnosis is associated with increased risks of mortality and morbidity [2,4]. Endoscopic retrograde cholangiopancreatography (ERCP) is one of the most accurate ductal evaluation modalities, and endoscopic pancreatic stenting might allow unnecessary surgery to be avoided [1].

In this paper, we report a case of pancreatic injury that was diagnosed late after the initial trauma without injury to any other intra-abdominal organs. The patient was managed successfully using endoscopic pancreatic stenting.

## Case presentation

A 47-year-old man was referred to our emergency department after experiencing blunt abdominal trauma 5 d earlier. The mechanism of injury was a blow to the epigastrium caused by a fall. His vital signs included a blood pressure of 120/70 mmHg, heart rate of 72 beats per min, body temperature of 37.2 °C, and respiratory rate of 20 breaths per min. Laboratory tests revealed a white blood cell count of 21,310/mm<sup>3</sup>, mild increases in serum amylase/lipase levels (471/688 U/L), and a C-reactive protein level of 25.71 mg/dL. An abdominal CT scan revealed discontinuity between the pancreas head and neck with peripancreatic fluid collection (Fig. 1). The patient was diagnosed with a grade-III pancreatic injury. His hemodynamic status

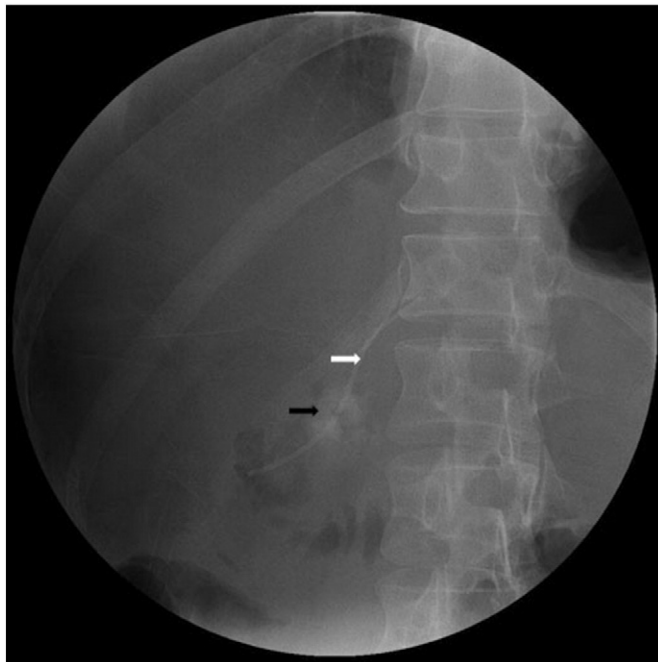
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**Fig. 1.** Abdominal computed tomography showing pancreatic neck transection (white arrow) and phlegmon formation.

remained stable over the 5 d following the fall. First, we performed ERCP, which demonstrated disruption of the main pancreatic duct with leakage at the neck portion of the pancreas. A 5-Fr 9-cm endoscopic pancreatic stent was inserted into the pancreatic duct across the disrupted portion (Fig. 2). Next, a percutaneous drainage catheter was placed at the site of peripancreatic fluid collection. A follow-up CT scan revealed no exacerbation of the pancreatic injury and decreased peripancreatic fluid collection volume. The patient's symptoms improved after endoscopic treatment and percutaneous catheter insertion. The percutaneous catheter was removed on hospital day 20, and the patient was discharged on hospital day 26. Four months after discharge, follow-up ERCP was performed and revealed no leakage at the disruption site but stricture around the leakage site. The initial stent was replaced with a 7-Fr 9-cm endoscopic pancreatic stent to dilate the stricture site. ERCP was performed again at 7 months after discharge, and revealed mild stricture of the leakage site without leakage. Therefore, the stent was removed. Another 4 months later, the patient had experienced no further adverse events.



**Fig. 2.** Endoscopic retrograde cholangiopancreatography showing leakage at the neck portion of the pancreas (black arrow) and an inserted pancreatic stent (white arrow).

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