

## CASE REPORT

# Fully laparoscopic pancreaticojejunostomy, Puestow procedure (with video)

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## Abstract

Chronic pancreatitis usually requires medical treatment and, in rare cases, surgical intervention. The most frequent cause of consultation is chronic pain that is difficult to manage, and therapeutic options such as endoscopy can resolve most problems without surgery. However, when these options fail, surgical management is necessary. The most common surgery is a lateral pancreatic bypass or Puestow surgery. We present the case of a 31-year-old patient with unspecific abdominal discomfort. Abdominal ultrasonography showed significant dilation of the pancreatic duct (18 mm). Abdominal magnetic resonance imaging showed an impacted stone in the head of the pancreas and pancreas divisum. Resolution with endoscopy was attempted, but the pancreatic duct could not be accessed due to impacted lithiasis. After discussion in a multidisciplinary committee, surgical treatment was recommended, and a fully laparoscopic Puestow surgery was performed.

## INTRODUCTION

Chronic pancreatitis is a rare disease. Most patients require only medical management; however, surgical intervention is sometimes required [1]. One of the most frequent interventions is the lateral pancreaticojejunostomy or Puestow surgery. This surgery allows decompression of the dilated pancreatic duct, which partially improves exocrine pancreatic function. Increasingly complex procedures can be performed with the development of mini-invasive surgery. Several reports describe fully laparoscopic Puestow procedures [2].

## CASE REPORT

A 31-year-old patient presented with nonspecific abdominal discomfort. The abdominal ultrasonography showed significant dilation of the pancreatic duct (18 mm). The abdominal magnetic resonance imaging showed an impacted stone in the head of the

pancreas and pancreas divisum. An endoscopic resolution was attempted. However, the pancreatic duct could not be accessed due to the presence of impacted lithiasis. A multidisciplinary committee recommended surgical treatment, and a fully laparoscopic Puestow surgery was performed.

The patient was positioned supine with the legs apart. Two 12-mm trocars and three 5-mm trocars were introduced. Exposure of the pancreas was performed by sectioning the gastrocolic ligament with a Harmonic Ace® scalpel (Ethicon Endo-Surgery Inc., Ohio, USA). Laparoscopic ultrasonography was used to facilitate identification of the duct. Guided by the ultrasound image, the dilated duct was punctured. Subsequently, the duct was opened longitudinally from the neck to the tail. A choledochoscope was introduced into the duct in the direction of the pancreatic head and a large impacted lithiasis was observed. The stone was embedded in the wall of the pancreas and numerous maneuvers were performed using Dormia and strong forceps

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without mobilizing the stone. Therefore, extraction of the stone was abandoned. A Roux-en-Y loop was performed via a lateral jejuno-jejunostomy with a 60-mm linear stapler. The loop was ascended via the transmesocolic route without tension and a longitudinal enterotomy was performed according to the opening of the pancreatic duct. A latero-lateral anastomosis was performed with a single plane of 4/0-silk running intracorporeal stitches. Suction drainage was placed; it was removed on the third postoperative day after confirmation of normal amylases measured in the drain.

The total operative time was 120 minutes. The estimated blood loss was <100 ml. After an uneventful postoperative course, the patient was discharged on Day 4 without complications. Laparoscopic Puestow surgery appears to be a safe and effective procedure for decompression of the pancreatic duct with all the benefits of mini-invasive surgery [3].

## DISCUSSION

The goals of surgery in chronic pancreatitis should be pain relief and maintenance of pancreatic function. In 1958, Puestow and Gillesby described ductal drainage by longitudinal anastomosis, with resection of the tail of the pancreas and splenectomy. In 1960, Partington and Rochelle modified this technique by eliminating the splenectomy and distal pancreatectomy. This modified procedure ('Modified Puestow') is the surgery currently recommended for patients with a dilated canal (>7–8 mm). This procedure results in initial pain relief in 66–93% of patients [4]. The development of mini-invasive surgery allows the Puestow

procedure to be performed safely and effectively; however, laparoscopic skill and experience in pancreatic surgery are required for this complex procedure. The use of this technique is limited by the low incidence of cases that require surgery. Thus, all possible cases in the surgical management of chronic pancreatitis should be documented.

## SUPPLEMENTARY MATERIAL

Supplementary material is available at *JSCREP Journal* online.

## CONFLICT OF INTEREST STATEMENT

None declared.

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