

# Laparoscopic Distal Pancreatectomy with Spleen Preservation in a Patient with a Pancreatic Cystadenoma. Case Report

## Pancreatectomia Distal Laparoscópica com Preservação do Baço em um Paciente com Cistoadenoma de Pâncreas. Relato de Caso

PAULO CEZAR GALVÃO DO AMARAL<sup>1</sup>; ERIC ETTINGER JÚNIOR<sup>2</sup>; JOÃO EDUARDO MARQUES TAVARES DE MENEZES ETTINGER<sup>2</sup>; RODOLFO CARVALHO SANTANA<sup>3</sup>; EULER MEDEIROS ÁZARO<sup>1</sup>; THALES DELMONDES GALVÃO<sup>2</sup>; EDVALDO FAHEL<sup>4</sup>

<sup>1</sup>. Doctor in Surgery. Coordinator of the General Surgery Service I – São Rafael Hospital; <sup>2</sup>. Assistant Physician of the General Surgery Service I – São Rafael Hospital; <sup>3</sup>. Resident Physician of the Digestive System Surgery Service – São Rafael Hospital; <sup>4</sup>. Doctor in Surgery. Chief of the General Surgery Service I – São Rafael Hospital. General Surgery Service I, São Rafael Hospital - Salvador – Bahia – Brazil.

### ABSTRACT

With the technological advances and increased experience with laparoscopy, increasingly complex procedures are being performed laparoscopically. Pancreatic resections accompanied this evolution and are possible in centers with great experience. Due to its low incidence and surgical complexity, there is no standardization of the procedure, including spleen preservation. We present a case report of a patient with cystadenoma in the body of the pancreas who underwent laparoscopic resection with preservation of the spleen. The procedure was performed using six laparoscopic portals. The duration of surgery was 180 minutes. There were no intraoperative complications, and no need for transfusion of red blood cells or other blood components. The patient developed a pancreatic fistula on the third post-operative day; with conservative treatment there was clinical resolution. The patient stayed in the intensive care unit for 24 hours and in the hospital for six days. In this case, laparoscopic distal pancreatectomy with spleen preservation was shown to be safe and effective, requiring a short hospitalization.

**Key words:** Pancreatic resections; laparoscopy.

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### INTRODUCTION

Laparoscopic surgery represents an important technological advance in surgical procedures. New techniques, new equipment, and experience accumulated over several decades has allowed for increasingly complex surgeries to be performed laparoscopically.<sup>1,2</sup> The early use of laparoscopy in pancreatic pathologies was limited to neoplasm staging, pseudocyst drainage, and palliative oncologic treatments.<sup>1,3-6</sup> The first pancreatic resections were performed in the late 1990s,<sup>6</sup> and, since then, distal pancreatectomy has been more often utilized for benign tumors in the body and tail of the pancreas. There are still few reports of this procedure in the literature, even from large centers, due to the low incidence of these pathologies and the surgical complexity; there is no standardization for the procedure.<sup>1,3,5,7-9</sup>

The advantage of this approach, in relation to laparotomy, are the benefits of a minimally invasive surgery, shorter hospitalizations, less post-operation pain, and faster recovery.<sup>2,4-7,10</sup> Nevertheless, spleen preservation is still being discussed.<sup>1,4,7</sup>

The goal of this work is to report the case of a patient with pancreatic cystadenoma who underwent laparoscopic distal pancreatectomy with spleen preservation.

### CASE REPORT

The patient is a 55 years old male, with a one year history of a post-prandial sensation of “being stuffed”, accentuated after eating fatty foods, without other associated complaints. The patient underwent diagnostic investigation with ultrasonography, which demonstrated cholelithiasis and a solid pancreatic

node; computed tomography of the abdomen revealing a hypoeogenic node in the pancreas measuring 1.5 cm x 1.5 cm in the transition between the head and the body; and nuclear magnetic resonance showing a cystic formation of approximately 1.8 cm in the body of the pancreas without alteration of the Wirsung duct. (Figure 1)

The patient underwent distal pancreatectomy with spleen preservation, under general anesthesia, in a modified lithotomy position. prophylactic antibiotic was administered during the anesthetic induction. The surgeon positioned himself between the legs of the patient with the first assistant at his right and the camera-assistant at his left; the monitor was placed on a bedside table on the patient's left side.

Six portals were used: one 10 mm umbilical portal, one 12 mm left side portal, four 5 mm portals in the epigastrium, left hypochondrium, left iliac fosse, and right side (Figure 2). The intra-abdominal pressure was monitored and maintained at levels below 14 mm Hg. A 30-degree laparoscopic optic was used.

The procedure was initiated with the opening of the mesocolon using a harmonic scalpel (Ultracision, Ethicon Endo Surgery, Cincinnati, OH, USA) with visualization of the body and tail of the pancreas. A careful blunt dissection of the inferior border of the pancreas was performed, with access to its posterior face and view of the splenic vein. A pancreatic transection between the pancreas and the splenic vessels was conducted with a 45 mm linear stapler (Ethicon Endo Surgery, Cincinnati, OH, USA). Titanium clips and a harmonic scalpel were used for hemostasis. The dissection was continued up to the splenic hilum, with complete liberation of the piece. The exeresis of the pancreas was conducted using a bag, with expansion of the umbilical portal incision. A number 19 Jackson-Prates drain was inserted to monitor the pancreatic stump. The duration of surgery was 180 minutes, with blood loss estimated at 250 ml, without the need for transfusion of red blood cells or blood components. The patient was sent to the intensive care unit, where he remained for 24 hours. A liquid diet initiated on the first post-operation day was well tolerated. Despite drainage of less than 50 ml/day, the amylase measurements of the drain fluid on post-operation day 2 was 907 U/L. Oral intake was suspended and octreotide administration was initiated. There was a reduction of this value to normal levels in 24 hours, with a decrease of the drain's production to 10 ml/24 h. The oral diet was



Figure 1 - Magnetic Resonance Image.

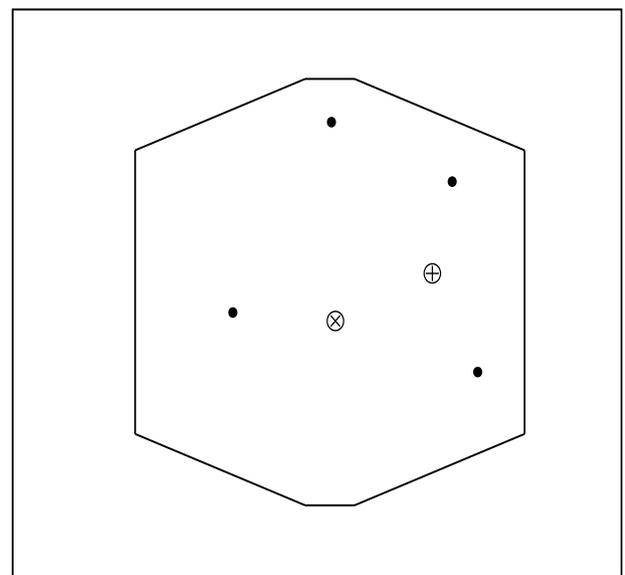


Figure 2 - Scheme of laparoscopic portals.

- : 5 mm
- ⊗ : 10 mm
- ⊕ : 12 mm

reintroduced and the drain was removed. Octreotide was used for 48 hours. The patient was discharged on post-op day 6, without further complications.

## DISCUSSION

Laparotomic distal pancreatectomy normally, requires large incisions for optimal exposure of the cavity due to the location of the pancreas and its relationship to large vessels. This is reflected post-

operatively in greater pain, greater probability of ileum, and longer length of stay as compared with less invasive surgery.<sup>1,2,4-7,10</sup>

Laparoscopic distal pancreatectomy is a procedure with indices comparable to conventional surgery. Published series in the literature show no statistically significant difference in the duration of surgery or in the incidence of complications, particularly pancreatic fistula.<sup>5,6</sup> Despite the degree of technical difficulty, the authors consider this procedure safe in centers with experience in laparoscopic surgery.<sup>2-5,11</sup>

The laparoscopic procedure is best indicated for patients with benign lesions in the body and tail of the pancreas, due to the favorable distal location for resection, and because such cases do not require anastomosis or lymphadenectomy.<sup>1,3,9</sup>

In the literature, the most frequently used surgical technique for distal tumors is distal pancreatectomy with removal of a block of the spleen.<sup>4</sup> There is no consensus regarding the preservation of the spleen, though it is defended by several authors mainly because of concerns about post-operative infectious complications.<sup>1,4,7</sup> This procedure can be performed using splenic vessel occlusion with blood supply maintained by the short vessels (Warshaw's technique) or with their preservation. We believe that distal pancreatectomy should always be conducted with

splenic preservation without sectioning splenic vessels when such vessels are not affected, due to complications associated with Warshaw's technique, such as abscesses and splenic infarcts.<sup>1,4</sup>

Pancreatic fistula remain one of the main complications of distal pancreatectomy, even when performed laparoscopically.<sup>6,10</sup> Vezakis *et al*<sup>7</sup> refer to improvements in their results after adopting routine suture of the post-stapled pancreatic stump. There is no consensus or uniformity about the definitions of fistula and pancreatic leaking in the literature.<sup>1,6,10</sup> We consider a pancreatic fistula to be present when the measured drain amylase is three times the highest normal serum amylase value. We treat pancreatic fistula in a conservative manner, reserving invasive procedures in case of clinical repercussion. We always use octreotide, despite controversy regarding its use.<sup>1</sup> In this particular case, we agree that there was a leak, as there was a dramatic decrease in the amylase levels and a decrease of the drain's output.

## CONCLUSION

In this case, laparoscopic distal pancreatectomy with spleen preservation was shown to be safe and effective, with results comparable to those previously published.

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## RESUMO

Com os avanços tecnológicos e maior experiência com a laparoscopia, procedimentos cada vez mais complexos estão sendo realizados por laparoscopia. As ressecções pancreáticas acompanharão esta evolução e são possíveis de serem realizadas em centros com grande experiência. Devido à sua baixa incidência e complexidade cirúrgica, não há padronização do procedimento, incluindo a preservação do baço. Nós apresentamos relato de caso de uma paciente com cistoadenoma no corpo do pâncreas que foi submetida à ressecção laparoscópica com preservação do baço. O procedimento foi realizado com seis portais laparoscópicos. A duração da cirurgia foi de 180 minutos. Não houve complicações intra-operatórias, e não houve necessidade de transfusão de sangue ou de outros componentes do sangue. O paciente evoluiu com fístula pancreática no terceiro dia pós-operatório, tendo resolução clínica com o tratamento conservador. O paciente permaneceu na unidade de terapia intensiva por 24 horas e no hospital por seis dias. Neste caso, a pancreatectomia distal laparoscópica com preservação do baço mostrou ser segura e eficaz, necessitando uma hospitalização de curta duração.

**Palavras-chave:** Ressecção pancreática; Laparoscopia.

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**Correspondence address:**

PAULO CEZAR GALVÃO DO AMARAL

Serviço de Cirurgia Geral I, 4º andar, Hospital São Rafael  
Av. São Rafael 2156, São Marcos, Salvador, Bahia.

Tel. 71 3281-6400

Fax: 71 3393-2332

Email: cirurgias@terra.com.br