

Clinical Case

A Rare Cause of Acute Cholangitis: Incarceration of the Biliopancreatic Limb Within an Incisional Hernia

Uma Causa Rara de Colangite Aguda: Encarceramento do Ramo Biliopancreático numa Hérnia Incisional

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ABSTRACT

Cholangitis is a recognized complication following Roux-en-Y hepaticojejunostomy, most commonly associated with anastomotic stricture or enteric reflux. Mechanical obstruction of the biliopancreatic limb is a rare cause that may impair biliary drainage and precipitate infection. We report the case of a 54-year-old patient with history of bile duct injury following cholecystectomy and Roux-en-Y hepaticojejunostomy performed 25 years earlier, who presented with abdominal pain, fever, and jaundice. Physical examination revealed an incarcerated midline incisional hernia. Laboratory investigations demonstrated a cholestatic pattern with elevated inflammatory markers. Contrast-enhanced abdominal computed tomography showed herniation of the biliopancreatic limb through a midline abdominal wall defect, causing mechanical obstruction with proximal jejunal dilatation, an abrupt transition point at the hernia site, and associated upstream intrahepatic biliary dilatation. The patient underwent urgent surgical repair, with successful reduction of the herniated biliopancreatic limb, with no signs of bowel compromise, followed by abdominal wall repair with mesh reinforcement. Broad-spectrum antibiotic therapy was administered, and the postoperative course was uneventful, with complete clinical recovery. This case highlights a rare mechanical etiology of acute cholangitis in patients with altered biliary anatomy and underscores the importance of considering biliopancreatic limb obstruction in the differential diagnosis, as prompt recognition and surgical management are essential to prevent serious complications.

Keywords: Cholangitis; Hepaticojejunostomy; Hernia, Incisional; Postoperative Complications

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RESUMO

A colangite é uma complicação reconhecida após hepatojejunostomia em Y de Roux, mais comumente associada à estenose anastomótica ou refluxo entérico. A obstrução mecânica da alça biliopancreática é uma causa rara que pode prejudicar a drenagem biliar e precipitar infecção. Relatamos o caso de um paciente de 54 anos com histórico de lesão do ducto biliar após colecistectomia e hepatojejunostomia em Y de Roux realizadas há 25 anos, que apresentou dor abdominal, febre e icterícia. O exame físico revelou uma hérnia incisional mediana encarcerada. Os exames laboratoriais demonstraram um padrão colestático com marcadores inflamatórios elevados. A tomografia computadorizada abdominal com contraste mostrou herniação da alça biliopancreática através de um defeito na parede abdominal mediana, causando obstrução mecânica com dilatação do jejuno proximal, um ponto de transição abrupto no local da hérnia e dilatação biliar intra-hepática a montante associada. O paciente foi submetido a cirurgia de urgência, com redução bem-sucedida da hérnia da alça biliopancreática, sem sinais de comprometimento intestinal, seguida de reparo da parede abdominal com reforço de tela. Foi administrada antibioticoterapia de amplo espectro e o pós-operatório decorreu sem intercorrências, com recuperação clínica completa. Este caso destaca uma etiologia mecânica rara de colangite aguda em pacientes com anatomia biliar alterada e ressalta a importância de considerar a obstrução da alça biliopancreática no diagnóstico diferencial, visto que o reconhecimento e o tratamento cirúrgico precoces são essenciais para prevenir complicações graves.

Palavras-chave: Anastomose em-Y de Roux/efeitos adversos; Colangite; Complicações Pós-Operatórias; Hérnia Incisional

INTRODUCTION

Cholangitis is a recognized complication following Roux-en-Y hepaticojejunostomy, occurring in up to 14% of cases, most commonly as a consequence of anastomotic stricture or enteric reflux. In patients with altered biliary-enteric anatomy, impaired bile drainage may predispose to biliary stasis, bacterial colonization, and ascending infection. Less commonly, mechanical causes affecting the biliopancreatic limb may compromise bile flow and precipitate cholangitis.¹⁻⁶

Biliopancreatic limb obstruction is a rare but clinically important complication in patients with prior biliary-enteric reconstruction. Obstruction may result from several mechanical causes, including adhesions, internal hernias, volvulus, postoperative strictures, or external compression. Increased intraluminal pressure within the obstructed limb may impair biliary drainage, leading to progressive upstream biliary dilatation, cholestasis, and infection. Because this mechanism is uncommon and clinical presentation may overlap with more frequent causes of postoperative cholangitis, diagnosis may be challenging.^{2,4,5}

We report a rare case of acute cholangitis secondary to incarceration of the biliopancreatic limb within a midline incisional hernia in a patient with previous Roux-en-Y hepaticojejunostomy.

CASE REPORT

A 54-year-old patient with a history of bile duct injury following cholecystectomy, managed with Roux-en-Y hepaticojejunostomy performed 25 years earlier, presented to the emergency department with abdominal pain, fever, and jaundice. No previous episodes of cholangitis were reported.

On physical examination, the patient was febrile and had an incarcerated midline incisional hernia associated with localized abdominal tenderness.

Laboratory investigations demonstrated hyperbilirubinemia, cholestatic liver enzyme elevation, and increased inflammatory markers, consistent with cholangitis.

Given the patient's altered postoperative anatomy and clinical suspicion of biliary obstruction, contrast-enhanced abdominal computed tomography was performed.

IMAGING FINDINGS

Abdominal computed tomography (CT) demonstrated herniation of the biliopancreatic limb through a midline abdominal wall defect, with proximal jejunal dilatation and an abrupt transition point at the hernia site, consistent with mechanical obstruction. Associated upstream intrahepatic biliary dilatation was also identified, supporting impaired biliary drainage as the cause of cholangitis.



Figure 1. Sagittal contrast-enhanced CT demonstrating incarcerated incisional hernia containing the biliopancreatic limb, with proximal dilatation of intrahepatic bile ducts consistent with biliary obstruction.

TREATMENT

The patient underwent urgent surgical repair of the incisional hernia. Intraoperatively, the herniated biliopancreatic limb was successfully reduced with no evidence of bowel compromise, and the abdominal wall defect was repaired with mesh reinforcement. The postoperative course was uneventful. Broad-spectrum antibiotic therapy with piperacillin/tazobactam was administered.

OUTCOME AND FOLLOW-UP

The patient remained asymptomatic with no recurrence of cholangitis or hernia at follow-up.

DISCUSSION

Cholangitis following biliary-enteric reconstruction is usually attributed to anastomotic stricture or enteric reflux,

both of which represent well-recognized complications after hepaticojejunostomy. Mechanical obstruction of the biliopancreatic limb is a considerably less common mechanism but should be considered in patients with surgically altered anatomy.^{1-3,6}

In biliopancreatic limb obstruction, impaired intestinal drainage results in increased intraluminal pressure proximal to the obstruction. In patients with biliary-enteric reconstruction, this elevated pressure may compromise bile flow across the anastomosis, promoting biliary stasis and ascending bacterial contamination, ultimately leading to cholangitis. Recognition of this mechanism is important because management differs substantially from that of primary biliary strictures, which may be approached endoscopically or percutaneously.^{2,4,5}

In the present case, external compression caused by incarceration of an incisional hernia resulted in mechanical obstruction of the biliopancreatic limb. Although incisional hernias are common following laparotomy, involvement of the biliopancreatic limb as a cause of acute cholangitis appears to be rare.

The diagnostic challenge in this setting lies in the fact that patients with previous hepaticojejunostomy presenting with fever, jaundice, and abdominal pain may initially be presumed to have an anastomotic complication. However, physical examination in this case immediately raised suspicion of an alternative mechanical cause. Cross-sectional imaging was essential not only to confirm the diagnosis, but also to define the anatomical relationship between the hernia, bowel obstruction, and biliary dilatation.⁴

CONCLUSION

In patients with previous Roux-en-Y hepaticojejunostomy presenting with fever, jaundice, and abdominal pain, mechanical obstruction of the biliopancreatic limb should be considered alongside more common causes such as anastomotic stricture.^{1,2,5}

Physical examination remains important, as abdominal wall hernias may provide an immediate clue to the underlying etiology.

Early cross-sectional imaging is essential for accurate diagnosis in patients with altered postoperative anatomy and prompt surgical intervention combined with appropriate antibiotic therapy can result in favorable outcomes.⁴

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JR: Conceptualization, data curation, writing – original draft, and visualization.

AF: Data curation, literature review, and writing – review & editing.

HG: Surgical management, data curation, and writing – review & editing.

JAM: Supervision, critical review, and final approval of the manuscript.

All authors approved the final version of the manuscript for publication and assume responsibility for all aspects of the work, ensuring the accuracy and integrity of the data presented.

DECLARAÇÃO DE CONTRIBUIÇÃO

JR: Conceção, recolha de dados, redação – versão original e visualização.

AF: Recolha de dados, revisão da literatura e redação – revisão e edição.

HG: Tratamento cirúrgico, recolha de dados e redação – revisão e edição.

JAM: Supervisão, revisão crítica e aprovação final do manuscrito.

Todos os autores aprovaram a versão final do manuscrito para publicação e assumem responsabilidade por todos os aspetos do trabalho, garantindo a exatidão e a integridade dos dados apresentados.

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