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“Acute abdominal pain in a liver-transplanted patient presenting with incisional hernia and complicated biliary anastomotic stricture”

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PII: S0016-5085(19)41576-X
DOI: <https://doi.org/10.1053/j.gastro.2019.11.021>
Reference: YGAST 63019

To appear in: *Gastroenterology*
Accepted Date: 12 November 2019

Please cite this article as: Lauka L, Terentii M, de’Angelis N, “Acute abdominal pain in a liver-transplanted patient presenting with incisional hernia and complicated biliary anastomotic stricture”, *Gastroenterology* (2019), doi: <https://doi.org/10.1053/j.gastro.2019.11.021>.

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Title:

“Acute abdominal pain in a liver-transplanted patient presenting with incisional hernia and complicated biliary anastomotic stricture”

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Lelde Lauka - study concept and design; acquisition of data; analysis and interpretation of data; drafting of the manuscript;

Maria Terentii - acquisition of data; analysis and interpretation of data; drafting of the manuscript

Nicola de'Angelis - study concept and design, critical revision of the manuscript for important intellectual content; study supervision

Conflict of interest:

Lelde Lauka - no conflict of interest to declare

Maria Terentii - no conflict of interest to declare

Nicola de'Angelis - no conflict of interest to declare

Question:

A 56 years old female presented to an emergency department with increasing pain in the area of incisional hernia and with local inflammation of the skin. There were no digestive symptoms. Physical examination revealed large incisional hernia of right subcostal region with fixed content, painful at the palpation and associated with local necrosis of the skin 3 cm in diameter. At the admission the patient had a fever of 38.6° C. Deep abdominal palpation revealed no other particularities.

At the admission the patient was anemic with Hb 9.1 g/dL, other blood analysis were in a normal range, including normal hemostasis and liver functional markers.

Patient had a history of chronic alcoholic liver cirrhosis. In October 2016 patient presented with ACLF (acute on chronic liver failure), acute renal failure and respiratory distress induced by an infection of refractory ascites and that required emergency liver transplantation. Right side split liver transplantation was performed. The procedure had late complications: incisional hernia, thrombosis of hepatic vein and stenosis of bilio-digestive anastomosis in postoperative month 3. Treatment of the stenosis required multiple ERCPs with stenting of the anastomosis and gradual dilatation of the stenosis. Last ERCP was performed in July 2019; calibration of 90% was achieved. The exam revealed complete disappearing of proximal stenosis.

Abdominal CT scan at the admission was performed. It detected a defect of 2 cm in the abdominal wall in the right subcostal area with digestive structures in hernial sac (figure A). Multiple foreign objects were visualized in the sac (figure B, figure C) with proximal extremities placed in the soft tissues of the abdominal wall. No pneumoperitoneum or any signs of peritonitis were visible. What is the diagnosis?

Answer:

Abdominal CT scan revealed a perforation of transvers colon in the hernial sac. The perforation was caused by 5 migrated biliary endoprosthesis that were detected into the hernial sac penetrating the colon wall.

Subcostal laparotomy was performed and revealed voluminous incisional hernia with incarcerated transversal colon which was perforated by 4 endoscopic stents (figure D, figure E), 5th stent was positioned in a lumen. Resection of perforated segment and double colostomy was performed. No intraabdominal contamination was detected. The hernia was repaired with primary closure.

Postoperative course was complicated by renal insufficiency with peak creatinine 194 $\mu\text{mol/l}$ and DFG 23 ml/min and anemia with Hb 7.4 g/dL on day 4. Patient received 2 units of red blood cells. Patient was discharge with functioning stoma and normal renal function on postoperative day 9.

Endoscopic stent migration is a rare complication with overall incidence of 6 %, especially after plastic stent placement. Distal migration is more common after stent placement for benign lesions as in this presented case. In majority of cases the passage of migrated stent is uneventful, however, intestinal perforation due to migrated stent has been well described in the literature ¹. Unlike most described cases that is sigmoid colon perforation, presented patient had transverse colon perforation. It is of importance to notice that the patient presented with incisional hernia. Among diverticular disease and intraabdominal adhesions, abdominal wall weakness and hernia is one of the risk factors for local complications of migrated stents, including perforation. Fixed intestinal content in the hernia and decreased local resistance changes the normal course of migration of a foreign body and, therefore, increases the risk of complications ¹. Incisional hernia is a common complication after liver transplantation with an incidence between 5-34%. Obese patients with diabetes mellitus who had multiple laparotomies and had received mycophenolate mofetil are at a higher risk of development of incisional hernia. Existing literature suggest that transplanted patients with incisional hernia should be treated in the same manner as non-transplanted patients, also encouraging mesh use and laparoscopic repair ².

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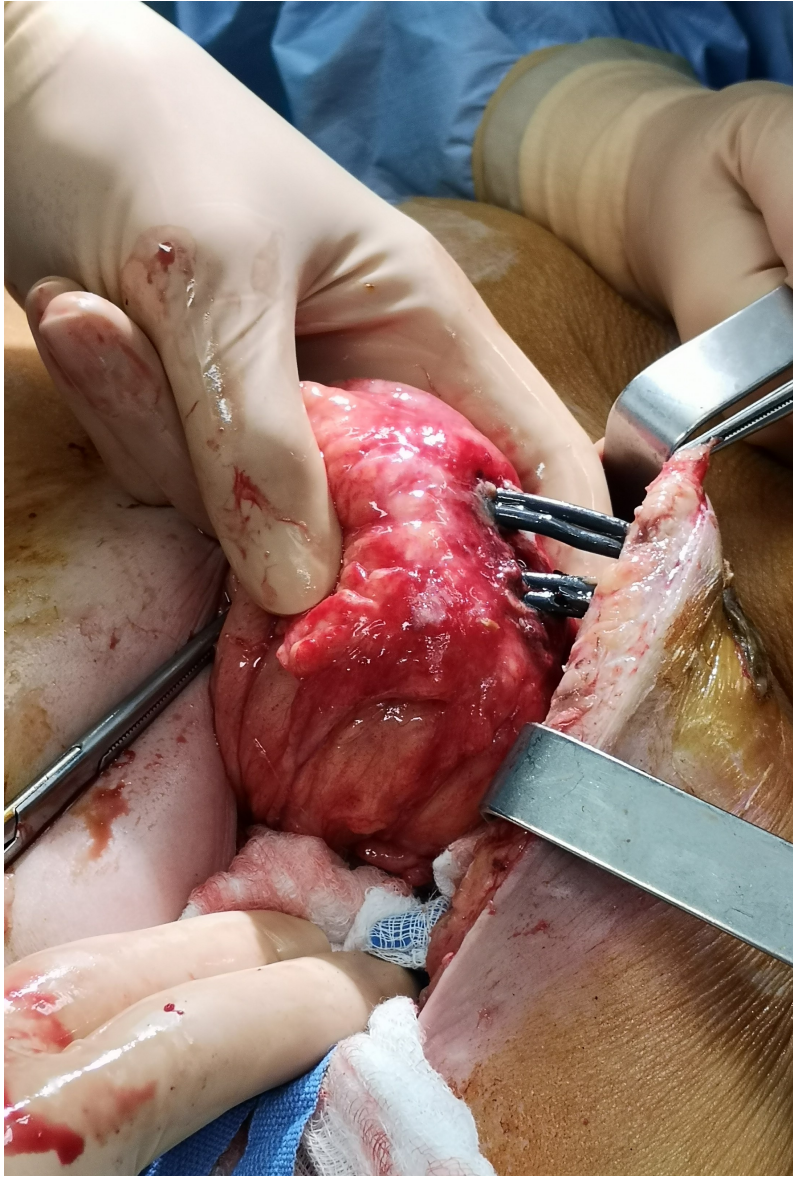
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