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Emesis Following Laparoscopic Left Donor Nephrectomy

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American Journal of Transplantation Images in Transplantation – Continuing Medical Education (CME)

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This month's feature article is titled: "Emesis Following Laparoscopic Left Donor Nephrectomy."

Accreditation and Designation Statement

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of Blackwell Futura Media Services, the American Society of Transplant Surgeons and the American Society of Transplantation. Blackwell Futura Media Services is accredited by the ACCME to provide continuing medical education for physicians.

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Statement of Need

Nausea, vomiting and emesis commonly occur after any laparoscopic abdominal surgery, including laparoscopic donor nephrectomy. Some of the many potential causes of these symptoms are postoperative ileus, bowel injury due to trocar placement and port site hernias. Early recognition of the cause with timely intervention is critical to minimize the postoperative morbidity and mortality in healthy kidney donors.

Purpose of Activity

The purpose of this activity is to recognize the potential causes of nausea and vomiting occurring after laparoscopic donor nephrectomy in order to promptly initiate treatment, improve postoperative outcomes and minimize donor morbidity.

Identification of Practice Gap

Recognition of the potential causes for emesis after laparoscopic donor nephrectomy is critical. Clinicians taking care of patients after laparoscopic donor nephrectomy must decide when a CT scan is warranted to evaluate for more morbid causes of nausea and vomiting, such as enteric leak, pancreatic leak or deep space infection.

Learning Objectives

Upon completion of this educational activity, participants will be able to:

- Recognize the potential causes of nausea and emesis after laparoscopic donor nephrectomy.
- Understand donor risk factors that may lead to this clinical presentation.
- Explain the subtle differences in the presentation between patients with postoperative ileus and other more morbid causes of postoperative emesis, understanding the need for prompt diagnosis and intervention.
- Formulate an effective intervention plan for this complication of donor nephrectomy.

Target Audience

This activity has been designed to meet the educational needs of physicians and surgeons in the field of transplantation.

Disclosures

No commercial support has been accepted related to the development or publication of this activity. Blackwell Futura Media Services has reviewed all disclosures and resolved or managed all identified conflicts of interest, as applicable.

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Images in Transplantation

Look and Learn

Emesis Following Laparoscopic Left Donor Nephrectomy

A 65-year-old woman underwent laparoscopic left donor nephrectomy. She was positioned right side down with the operating table flexed. Insufflation was accomplished via Veress needle in the left anterior axillary line a fingerbreadth below the costal margin. Four radially dilating trocars were inserted (three 10 mm trocars and a 12 mm trocar). There was no evidence of hollow viscous or vascular injury. The trocars remained in place during the entire operation. The kidney was mobilized and removed through a Pfannenstiel incision. Postoperative recovery was unremarkable. She tolerated a diet of solid food within 48 h and was discharged on postoperative day 3.

One day after discharge, she called reporting emesis. Evaluation in the emergency room showed the patient appeared well but complained of nausea. She denied abdominal pain and was afebrile with normal vital signs. Physical examination did not demonstrate abdominal tenderness or guarding. Incisions were without erythema. White blood cell count was 9.3×10^3 cells/uL, serum creatinine 1.14 mg/dL and serum amylase 55 U/L. Abdominal radiograph showed a normal amount of air and stool in the colon. The patient was admitted with a diagnosis of postoperative ileus. As a result of persistent emesis, a nasogastric tube was placed, which drained 1800 mL of bilious fluid over the next 24 h. Due to high volume bilious output, computed tomography (CT) scan with oral contrast but without intravenous contrast was obtained (Figures 1 and 2). Forty-eight hours after definitive therapy the patient was discharged tolerating a diet with resumption of bowel function.

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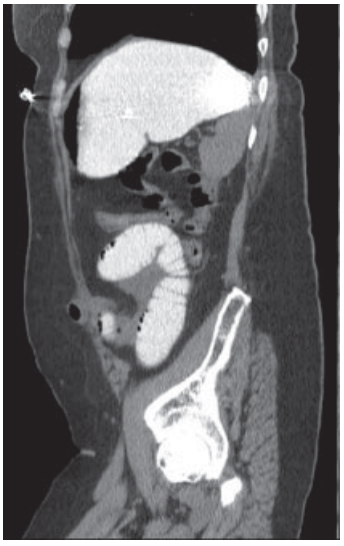

Figure 1: CT with oral contrast, sagittal view.

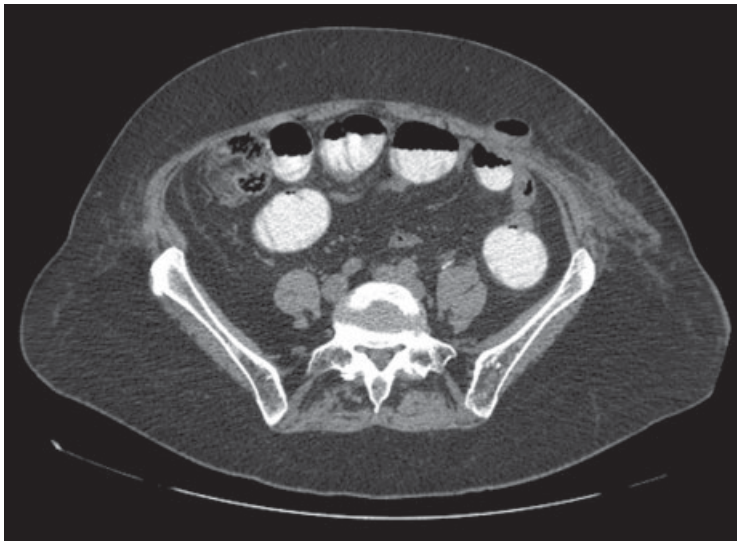

Figure 2: CT with oral contrast, axial view.

Questions

1. Based on the CT scan findings in Figures 1 and 2, what is the most likely diagnosis?

a. Postoperative fluid collection
b. Small bowel obstruction from port site hernia
c. Leak from the tail of the pancreas
d. Narcotic ileus
e. Hollow viscous injury from trocar insertion

2. Which of the following findings is MOST typical of this presentation?

a. Peritoneal signs
b. Large volume bilious emesis
c. Metabolic contraction alkalosis
d. Fecalization of the small bowel
e. Beak sign

3. What operative intervention is indicated?

a. Marsupialization of the abscess cavity
b. Percutaneous drainage of fluid collection
c. ERCP and stenting of the pancreatic duct
d. Laparoscopic lysis of adhesions
e. Small bowel reduction with closure of overlying fascia

4. What is the estimated rate of port site hernia after laparoscopic donor nephrectomy?

a. 3–5%
b. Just under 10%
c. 0.2–0.6%
d. 1–2%

5. What is a risk factor for development of a hernia at a laparoscopic port site?

a. Obesity
b. Failure to close all laparoscopic fascial port sites
c. Port sites 12 mm or greater
d. Prior laparoscopic surgery
e. Port placement in the lateral abdominal wall

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