CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 10 (2015) 25–29

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Cecal volvulus in giant ventral hernia

Aleksandr A. Reznichenko [a,*], Frank Macaluso [b], Rebecca Zulim [a]

[a] Department of Surgery, Tulare Regional Medical Center, CA 93274, USA
[b] Department of Radiology, Tulare Regional Medical Center, CA 93274, USA

ARTICLE INFO

Article history:
Received 17 January 2015
Received in revised form 2 March 2015
Accepted 2 March 2015
Available online 12 March 2015

Keywords:
Cecal volvulus
Ventral hernia
Adhesions
Mesh

ABSTRACT

INTRODUCTION: Colonic volvulus is the third leading cause of the colonic obstruction with cecal volvulus accounting for approximately 40% of all colonic volvulus. Lack of peritonealization of the right colon, adhesions from prior surgery, colonic atony, and distal colonic obstruction are potential risks factors for the development of cecal volvulus.
PRERSENTATION OF THE CASE: 63 year old male with history of multiple prior intraabdominal surgeries and recurrent ventral hernia. Presented with colon perforation, as a result of cecal volvulus, which was contained in a giant ventral hernia. Diagnosis of cecal volvulus was suspected based on preoperative imaging studies, and confirmed in the OR. Patient underwent damage control procedure with subsequent challenging abdominal wall closure.
DISCUSSION: Axial cecal volvulus and cecal bascule are representing two types of cecal volvulus. Both of these types require a mobile cecum and presence of right colon to occur. It is generally accepted, that mobile cecum is a congenital condition, but in certain situations, particularly after prior intraabdominal surgeries, cecum may lose fixation points and potentially become vulnerable to twisting. This patient with long history of large recurrent ventral hernia had mobile cecum inside the hernia sac and developed cecal volvulus.
CONCLUSION: We present a unique case of cecal volvulus in giant ventral hernia after multiple prior intraabdominal surgeries. Challenges in management of this exceptionally difficult patient were discussed. Large ventral hernia with mobile cecum inside hernia sac is a risk factor for cecal volvulus.

1. Introduction

Colonic volvulus is a twisting of a segment of colon resulting in an obstruction and sometimes ischemia [1]. Cecal volvulus is felt to occur as a result of the loss of development of the peritoneal fixation of the cecum [2].

Cecal volvulus results from either meso-axial or organo-axial rotation. When meso-axial, the rotation is typically around the ileocolic vessels, creating a volvulus comprised of ascending colon and terminal ileum, not just the cecum. Organo-axial rotation causes the cecal bascule, in which the cecum is flipped anteriorly over the ascending colon to produce obstruction at the ileocecal valve and a closed loop of proximal ascending colon [3,4].

A mobile cecum is generally considered to be congenital [5]. Several potential acquired risk factors were described and included lack of peritonealization of the right colon, typically due to mobilization during prior abdominal or pelvic surgery, adhesions from prior surgery, colonic atony and distal colonic obstruction [1,6].

Surgical intervention and right hemicolectomy are considered the gold standard as soon as diagnosis of cecal volvulus is made [1].

We present the first case of cecal volvulus in giant ventral hernia after multiple prior intraabdominal surgeries. Challenges in the management of this exceptionally difficult patient were discussed.

2. Case report

63 year old male with history of active heroin abuse, noncompliance, hypertension, obesity, CHF, hypercholesterolemia, multiple prior intraabdominal surgeries, including appendectomy, cholecystectomy, several ventral hernia repairs, long history of large ventral hernia, presented with worsening abdominal pain and distention for 2 weeks. Two days prior to admission, he noticed that his ventral hernia on right side of the abdomen became more swollen and painful. In the ER he became obtunded, developed severe respiratory distress and required endotracheal intubation. Subsequent CXR showed free intraabdominal air. Plain abdominal radiograph showed markedly distended cecum pointing to the left upper quadrant and free air (Fig. 1). At this point surgical consultation was obtained. Vitals: T 99, BP 174/90, pulse 115, respirations 12. Clinical exam showed distended abdomen and very large tender hernia occupying all right side of the abdomen

* Corresponding author. M.D, PhD, F.A.C.S. 470N Greenfield Ave-Ste 37, Hanford, CA 93230, USA. Tel.: +1 559 589 9460; fax: +1 559 589 9248.
E-mail address: areznik9@yahoo.com (A.A. Reznichenko).

http://dx.doi.org/10.1016/j.ijscr.2015.03.019

Fig. 1. Plain abdominal radiograph.

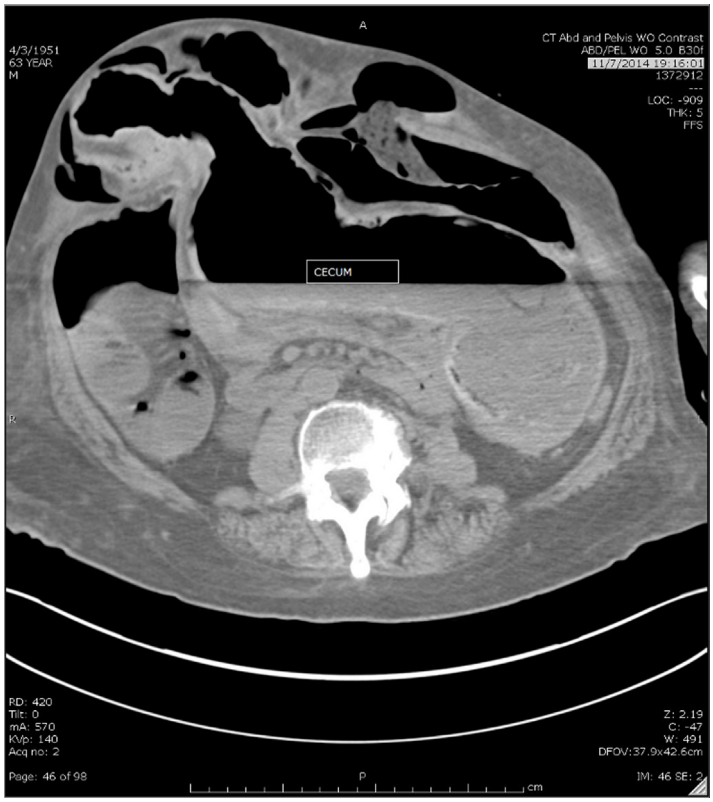

Fig. 2. CT axial view showing markedly distended cecum, partially contained in the ventral hernia.