



Abdominal compartment syndrome associated with Norovirus infection



Michael H. Liu*, S. Julie-Ann Lloyd, Colin Gause, Federico Seifarth, Anthony Deross

Cleveland Clinic Children's Hospital, 9500 Euclid Ave., Cleveland, OH 44195, USA

ARTICLE INFO

Article history:

Received 20 November 2014

Received in revised form

23 May 2015

Accepted 23 May 2015

Available online 1 June 2015

Key words:

Norovirus

Abdominal compartment syndrome

Decompressive laparotomy

Pancreatitis

Hepatitis

Pediatric patient

ABSTRACT

Norovirus infection is a leading cause of infectious gastroenteritis and is typically self-limited. Abdominal compartment syndrome is rare in the pediatric population. To date, there have been no reports of abdominal compartment syndrome secondary to Norovirus infection. This patient is a 7-year old female who presented with abdominal compartment syndrome and fulminant sepsis attributed to acute Norovirus infection. The patient was successfully treated with decompressive laparotomy, delayed abdominal closure, and supportive therapy. The patient's post-operative course was notable for acute hepatitis and pancreatitis, which resolved without further intervention. The patient was discharged home after a prolonged hospital stay in good condition.

© 2016 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Norovirus is a leading cause of infectious gastroenteritis and is usually a self-limited disease. Abdominal compartment syndrome in the pediatric population is uncommon, and there are no reports of abdominal compartment syndrome associated with Norovirus infection.

1. Case report

The patient is a 7 year-old female born at 28 weeks gestation. Her early medical history is significant for open Nissen fundoplication in the first year of life for refractory gastroesophageal reflux. The patient was feeling well until the morning of presentation, at which time she began to experience nausea, retching without vomiting, abdominal pain and distention. Over a period of hours she progressed to lethargy, acute mental status changes, and cyanosis. Of note, three household members had overcome recent flu-like illnesses characterized by nausea, emesis, and lethargy.

The patient initially presented to an outside hospital unresponsive and in respiratory distress. Examination revealed tachycardia, a severely distended and firm abdomen, and diffuse cyanosis with mottling of her lower extremities. Blood pressures

could not be measured. The patient was emergently intubated due to respiratory distress. Attempts at gastric decompression with placement of a nasogastric tube were unsuccessful due to tube coiling in the esophagus. Serum laboratory studies were notable for a leukocytosis of 18,000 k/uL, glucose of 439 mg/dL, acute transaminitis with AST 152 U/L and ALT 116 U/L, hyperlipasemia of 434 U/L, lactic acidemia of 12.36 mmol/L, and an arterial blood gas pH of 6.9. Chest and abdominal x-rays demonstrated massive gastric and small bowel distention (Fig. 1). Computed tomography imaging demonstrated similar findings without a transition zone and gas distributed within the distal rectum; a nasogastric tube was looped in the esophagus (Fig. 2). The patient was subsequently transferred to our institution for further management.

Surgical evaluation confirmed the above findings as well as lack of palpable pulses in the lower extremities. Attempts at repositioning and replacing an orogastric and nasogastric tube were unsuccessful. Due to concern for abdominal compartment syndrome (ACS), the patient was taken emergently to the operating room. Esophagogastroduodenoscopy (EGD) revealed a normal appearing esophagus, and intact Nissen fundoplication. There was a significant amount of dark succus within the stomach and there was evidence of gastric mucosal sloughing. A decompressive orogastric tube was successfully placed under endoscopic guidance. Due to persistent abdominal distention, an exploratory laparotomy was performed. Laparotomy revealed a small amount of clear

* Corresponding author. Cleveland Clinic Main Campus, Mail Code A100, 9500 Euclid Ave., Cleveland, OH 44195, USA. Tel.: +1 216 636 9297.

E-mail address: lium@ccf.org (M.H. Liu).

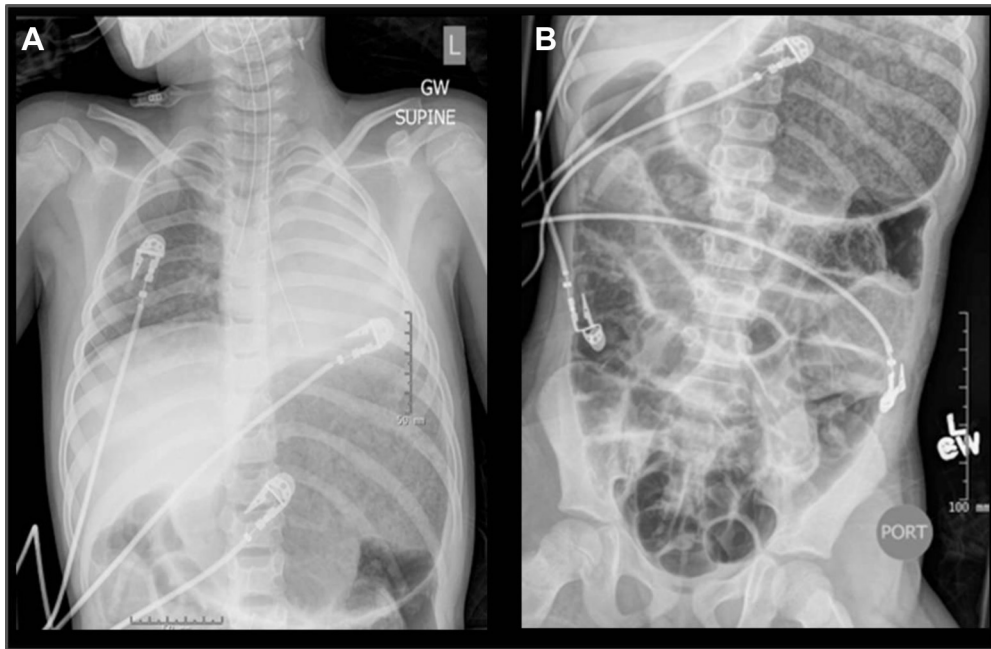


Fig. 1. Chest (A) and abdominal (B) radiographs demonstrate prominent gastric and bowel distention.

ascites without evidence of peritoneal contamination. The small bowel was markedly dilated and congested but without evidence of ischemia. Exploration of the abdomen revealed no additional abnormalities. The abdomen was temporarily closed with a modified negative pressure wound therapy dressing. The patient demonstrated immediate improvement in perfusion as evidenced by resolution of cyanosis and increased urine output.

The patient was maintained on mechanical ventilation post-operatively and admitted to the intensive care unit. She

returned to the operating room on hospital day number two for a second look operation and repeat EGD. Endoscopy demonstrated congestion and erythema of the gastric mucosa with a large quantity of undigested food or tissue in the fundus. The gastric effluent was sent for cultures, and biopsies of the gastric mucosa and mass were obtained. Abdominal exploration revealed minimal serous ascites. The small bowel appeared viable but remained significantly dilated, precluding definitive closure. A liver biopsy was obtained due to worsening hepatitis and the abdomen was

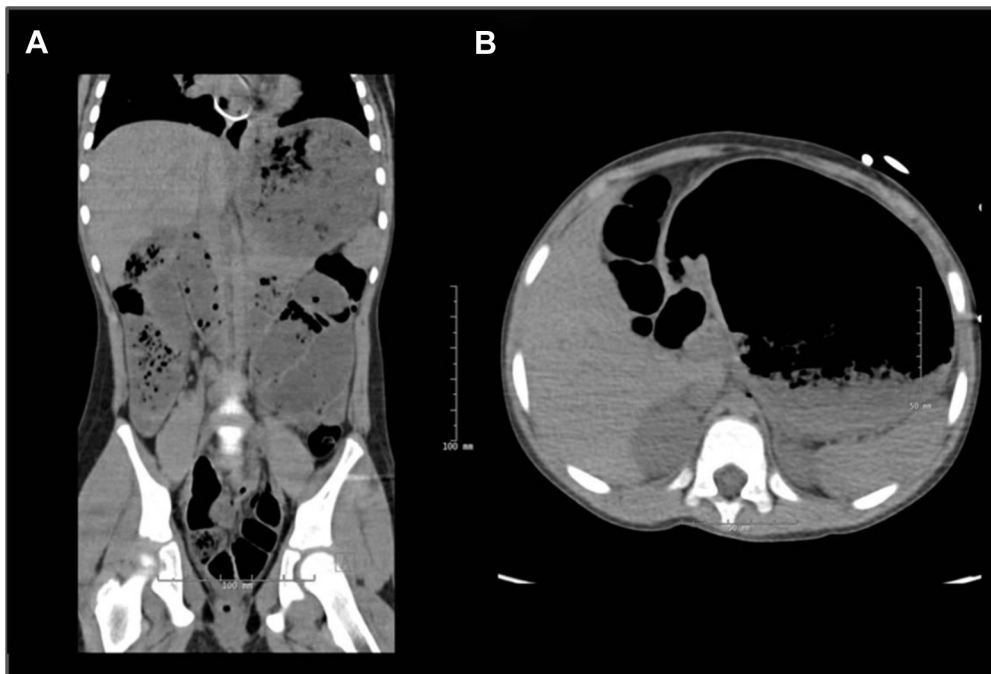


Fig. 2. Coronal (A) and axial (B) computed tomography images demonstrate prominent gastric and bowel distention. (A) also demonstrates intra-esophageal looping of the nasogastric tube.

Download English Version:

<https://daneshyari.com/en/article/4161253>

Download Persian Version:

<https://daneshyari.com/article/4161253>

[Daneshyari.com](https://daneshyari.com)