Pediatric acute colonic pseudo-obstruction post complicated appendicitis

Yasir R. Alshareef

ABSTRACT

Introduction: Acute colonic pseudo-obstruction or Ogilvie syndrome is a rare but potentially fatal disorder. In addition, it can present diagnostic dilemma especially after complicated appendicitis where postoperative ileus and mechanical obstruction are more common. It has a significant morbidity and mortality rate that can be prevented by early diagnosis and prompt management.

Case Report: A nine-year-old boy was presented with clinical features of a ruptured appendix. The child was taken up for an exploratory laparotomy after an initial resuscitation, postoperatively, was eventful with a continued fever (38–39°C) and abdominal distention. So a second laparotomy was undertaken 10 days later, and the patient showed dramatic improvement before he developed progressive abdominal distention, mainly due to large bowel dilatation. Therefore, a diagnosis of acute colonic pseudo obstruction predicted and the patient managed conservatively with good response.

Conclusion: The possibility of acute colonic pseudo-obstruction should be considered in deferential diagnosis of bowel obstruction post-complicated appendicitis, since early diagnosis and prompt management can improve the outcome of this potentially serious condition.

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CASE REPORT

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Keywords: Acute appendicitis, Acute Colonic Pseudo-obstruction, Ogilvie syndrome, Postoperative complication

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INTRODUCTION

Acute colonic pseudo-obstruction (ACPO) or Ogilvie syndrome is a gastrointestinal motility disorder characterized by acute massive distension of the cecum and right colon in the absence of mechanical obstruction [1]. Acute colonic pseudo-obstruction is witnessed predominantly in the elderly population and has been rarely reported in pediatrics [2, 3]. To the Author's knowledge, this is the only case of ACPO post-complicated appendicitis in the pediatric age group, and this case may raise the confusion with the cause of obstruction.

CASE REPORT

A nine-year-old boy arrived at the emergency room with a seven-days history of abdominal pain, fever, vomiting and loose bowel motion. Upon physical examination, he was febrile (39°C), ill-looking, and moderately dehydrated with stable vital signs. The abdomen was mildly distended with generalized tenderness and guarding, no significant past medical or surgical history.

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The child was admitted to the hospital with a postulated diagnosis of perforated appendicitis. The child was resuscitated with, IV fluids and antibiotics (Gentamicin, Metronidazole, Ampicillin) started, and he was subsequently taken to operating room for an exploratory laparotomy; the abdomen was full of pus, and the appendix was gangrenous and perforated.

Post-operatively, the patient had a continuous fever (38-39°C) and abdominal distention for 10 days, so he had been taken to operating room for laparoscopic exploration where bowel adhesion noticed. In addition, pus collection was found on the left side of abdomen, and a laparoscopy converted to open, due to difficult adhesiolysis. Postoperatively, he was doing fairly well in the first two days before he developed a progressive abdominal distention without vomiting; clinically, the abdomen was tens and tender with hypoactive bowel sounds, and blood work was within normal limits.

An abdominal X-ray revealed immense dilation of the large intestine with minimal dilation of the small bowel (Figure 1). The child was managed conservatively with bowel rest, and nasogastric tube drainage. A Gastrografin enema ruled out mechanical obstruction and showed a significant dilated colon and cecum (Figure 2). The diagnosis of ACPO was entertained because of massive abdominal distension- with mainly colonic dilation, but without signs of mechanical obstruction. His colon was decompressed significantly after the Gastrografin enema, with a reduction in abdominal distension on consequent

Figure 2: Gastrografin enema showing significant dilated colon and cecum.

Figure 1: Abdominal X-ray revealing distal bowel obstruction.

examination. There was a complete and gradual resolution of abdominal distension over the next three days with conservative management. He was doing well after three months of follow-up.

DISCUSSION

Ogilvie syndrome was first named after Sir Ogilvie, who in 1948 reported two cases of colonic pseudo-obstruction without evidence of organic obstruction to intestinal flow [4]. Acute colonic pseudo-obstruction can occur at any age. However, it has been most frequently noted in the elderly [1]. The pathophysiology is not fully understood. However, it is assumed to result from either a suppression of sacral parasympathetic nerves or an increase in sympathetic tone leading to an inhibition of colonic motility and a subsequent dilatation of the proximal colon. The intraluminal pressure in the proximal colon and a cecum increase which hinders the cecal capillary circulation, leading to ischemia, gangrene and perforation [4–6].

Ogilvie syndrome has been associated with multiple etiologies in adult patients, such as recent surgeries, sepsis, metabolic disturbances, and drugs that interrupt colonic motility [1, 7]. The risk factor of having Ogilvie syndrome postoperatively is related to surgery of cardiovascular,

thoracic, orthopedic, obstetric or gynecological and spinal surgery [8]. However, our case occurred postoperatively of complicated appendicitis.

Ogilvie syndrome in the postoperative patient is worrisome, because the abdominal distension is easily confused with a simple postoperative ileus. Thus, it is essential for the surgeon to be aware of the condition, since it may be successfully treated if recognized promptly.

The diagnosis is usually made based on a combination of clinical and radiological findings. The most common symptoms are abdominal distension with mild to moderate abdominal discomfort; however, massive abdominal distension with mild to moderate tenderness is evident upon clinical examination. Abdominal radiographs shows gaseous distension and suggest distal bowel obstruction with little air/fluid level compared to mechanical obstruction [9, 10]. The diagnosis of ACPO in our patient was made dependent on the clinical finding of progressive and massive abdominal distension in conjunction with radiological evidence of non-mechanical large bowel obstruction.

Conservative treatment is the initial management, consisting of gastric decompression, bowel rest, correction of abnormal electrolytes, and treatment of the underlying cause. However, endoscopic colonic decompression traditionally has been the procedure of choice after failure of conservative treatment [10]. In the case of unsuccessful endoscopic decompression surgical intervention with tube cecostomy has been advocated in adult patients. However, it carries a mortality rate of more than 25% [1].

A double blind study by Ponce et al., showed that Neostigmine is a safe and effective treatment in the adult population [11]. However, successful treatment of ACPO with neostigmine has been documented in pediatric patients [2, 3]. Schermer et al. display in their retrospective study that cystografin enema is the optimal first line treatment for acute colonic pseudo-obstruction [12]. In our patient, the Gastrografin (Diatrizoate) enema was helpful, first to rule out a mechanical obstruction, and second as a primary mode of decompression.

CONCLUSION

Ogilvie syndrome (ACPO) is rare in the pediatric population, and it creates a diagnostic dilemma especially after a complicated appendicitis, because the abdominal distension is easily tangled with a simple postoperative ileus or mechanical obstruction, as a result such a condition should be considered in differential diagnosis of bowel obstruction as an early diagnosis and prompt management can improve the outcome of this potentially serious condition.

Author Contributions

Yasir R. Alshareef – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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