Case Report

Acute colonic pseudo-obstruction (ACPO) after normal vaginal delivery

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Abstract

Acute colonic pseudo-obstruction (ACPO) can occur as a potential complication following various surgical procedures. Whereas several cases of ACPO are documented in the medical literature following Caesarean section (C-section), only rarely has it been described in association with a normal vaginal delivery. We report a 32-year-old female who developed acute intestinal obstruction immediately following normal vaginal delivery. The patient was rushed in for an emergent exploratory laparotomy which revealed a massively dilated caecum and ascending colon. A right hemi-coloctomy was performed. The diagnosis of ACPO was made once the excised tissue revealed disease free bowel by histology. The patient had an uneventful recovery. Thus in women presenting with bowel obstruction after a normal vaginal delivery, ACPO should be considered as one of the differential diagnoses.

Introduction

Acute colonic pseudo-obstruction (ACPO) can occur as a potential complication following various surgical procedures.[1] Whereas several cases of ACPO are documented in the medical literature following Caesarean section (C-section), only rarely has it been described in association with a normal vaginal delivery.

Case Report

A 32-year-old female was referred to surgery by her obstetrician with complaints of nausea and abdominal distention immediately after a normal vaginal delivery. On examination, the abdomen was found to be tender and grossly distended especially in the right iliac fossa. Gut sounds were audible and the patient gave a history of passing flatus a few hours back. A nasogastric and flatus tube was passed to assist decompression. Baseline blood investigations were all within normal range. Ultrasound showed presence of dilated bowel loops. The plain abdominal X-ray revealed massive caecal dilation of 14 cms, ascending colon dilation of 8 cms and the rest of the colon being normal. Due to her deteriorating condition and failure to respond to conservative management, an emergent exploratory laparotomy was performed which confirmed the massive dilation of the caecum and a dilated ascending colon. The gut walls were erythematous and very fragile. Taenia coli were pulled apart and there were eminent perforations on the caecum.

The transverse and the descending colon were found to be normal. An enlarged post gravid uterus was also noticed. A right hemi-colectomy was performed. The excised tissue was sent for histology which revealed a disease free bowel. The patient had an uneventful recovery with passage of flatus and stools and was discharged 4 days later.

Discussion

ACPO, also known as Ogilvie's syndrome,[2] is portrayed by massive dilation of the colon without any associated mechanical obstruction.[3] The clinical features include abdominal distention and tenderness along with low grade fever.[4] The timely diagnosis and treatment is critical as otherwise it may result in complications such as ischaemia and perforation of the colon. If perforation takes place, which may occur in up to 15 % of cases, the mortality rate increases beyond 50%.[5]

The etiology of ACPO is multi factorial and has been associated with the use of alcohol and antidepressants, respiratory insufficiency in the elderly and various surgical procedures mainly pelvic operations. The primary reason to cause ACPO during such surgeries is thought to be the disruption of the sacral parasympathetic nerves that are situated in close proximity to the pelvic area which are at risk during the operation.[6]

Although, literature review shows several cases of ACPO occurring as a complication following C-section, there have been only a few cases in which it was associated with instrumental vaginal deliveries.[7] However, to date only 1 case of ACPO has been described in association with a normal vaginal delivery. Keswani et al[8] described that sole case in which a 30 year old multigravida developed painless abdominal distention roughly 12 hours after parturition. The basic laboratory investigations were normal but the abdominal

X-ray showed caecal distention. Right hemi-colectomy with an end to end ileo-colic anastomosis was performed and the patient recovered uneventfully. The histopathology of the caecum revealed no positive findings. In contrast to the case described by Keswani et al, the patient reported in our study had a very tender abdomen. However, the course of diagnosis and treatment remained almost identical in both the described cases. Dilated colon with a sharp cut off of the gas pattern with retention of the colonic mucosal pattern on abdominal X-ray is typical of ACPO. Although X-ray serves as the basis of diagnosis,[1] other diagnostic modalities such as water soluble contrast enema[5] or a computed tomography of abdomen may be used to reach the diagnosis with confidence. However, in some patients an exploratory laparatomy will remain the final option to reach a conclusive diagnosis.

Treatment offered may consist of conservative therapy, medical treatment, noninvasive and invasive procedures. Conservative therapy is instituted initially and includes restricting oral fluids by ensuring nothing per os (NPO), intravenous fluids, and keeping an electrolyte balance. Initial decompression is achieved by suctioning via nasogastric tube to prevent the already dilated colon from distending further. Evacuation of colonic gas can be aided by the knee chest position.[9] An insertion of a rectal tube may help with drainage via gravity. These supportive measures can successfully treat the majority of patients. Out of 151 patients with ACPO studied retrospectively by Loftus et al, 77% had resolution of symptoms with the above measures.[10] In this patient, conservative measures of nasogastric suctioning and passage of a rectal tube were used but the condition of the patient did not improve.

Medical therapy is instituted if the patients do not improve after 1-2 days of conservative treatment or if the caecum is distended more than 10 cm in the absence of peritonitis or perforation. The most commonly used and effective drug is neostigmine. In a randomized, double blinded clinical trial, Ponec et al[11] showed that the use of neostigmine resulted in prompt colonic decompression in 91% (10 of 11) patients compared to 0 of 10 receiving placebo. However, neostigmine has side effects of bradycardia and should be administered best in a vitally stable patient and a monitored setting. An alternative to neostigmine is erythromycin, a motilin receptor agonist.[11] In our patient, neostigmine was not used becuase of the presence of markedly unstable vital signs.

Decompression techniques are reserved for cases not responding to conservative or medical therapy.[12] Being an effective decompression procedure, colonoscopy prevents potential bowel perforation or ischaemia. However, if the bowel is perforated or there is an evidence of peritonitis, then colonoscopy is contraindicated.[13] In this patient, colonoscopy could not be attempted due to non availability of colonoscope in the late evening hours. At the same time, the patient's ever deteriorating condition demanded urgent measures to be taken and so, waiting for a colonoscopy till the next morning was not considered safe. Surgery is carried out if pharmacologic or endoscopic attempts at decompression fail or in an event of bowel ischaemia or perforation. With only less than 6% of operative mortality, surgery for ACPO is a safe option especially given the fact that over 50% of the patients would otherwise die with necrotic or perforated bowel.[5]

ACPO occurring in association with normal vaginal delivery is a rare event. Nevertheless, it should be kept in mind for those post-parturition females presenting with signs and symptoms of intestinal obstruction without an otherwise obvious cause for their critical condition.

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