LETTER TO EDITOR

PNEUMOPERITONEUM: A RARE PRESENTATION OF SEVERE ILEITIS

Charu Tiwari, Hemanshi Shah, Jyoti Bothra, Gursev Sandlas

Radiological pneumoperitoneum without bowel perforation presents a rare challenge.We describe a boy with acute abdomen, who had radiological evidence of pneumoperitoneum, but no bowel perforation and had severe ileitis on exploration.

An 11 year-old boy was admitted with fever, abdominal pain and distention, bilious vomiting and obstipation. On examination, he was febrile, had tachycardia. Abdomen was distended, tender and there was guarding present. No lump was palpable. Bowel sounds were sluggish. Digital rectal examination revealed an empty rectum. Erect X-ray abdomen revealed a thin rim of pneumoperitoneum. Abdominal ultrasound (USG) and computed tomography (CT) of abdomen revealed pneumoperitoneum, thickened distal small bowel loops, multiple mesenteric lymphadenopathy and mild free fluid in the peritoneal cavity. Appendix was not appreciated. Intra-operatively, there was minimal serous peritoneal fluid. Distal 2.5 to 3 feet of terminal ileum was congested with pus flakes. There was no evidence of perforation. Proximal bowel was healthy. The appendix and gall bladder were normal. The entire peritoneal cavity along with the lesser sac was thoroughly explored to rule out any occult perforation. The post-operative recovery was uneventful. Peritoneal fluid culture was negative.

Pneumoperitoneum, a surgical emergency, can be caused by non-surgical causes in about 10% of patients like intra-thoracic, intra-abdominal, iatrogenic, gynecologic causes or can be idiopathic (1,2) The intra-abdominal causes of include pneumatosis cystoides intestinalis, endoscopic procedures, post-operative, peritoneal dialysis, collagen vascular diseases, jejunal and sigmoid diverticulosis, emphysematous cholecystitis, spontaneous bacterial peritonitis, ruptured hepatic abscess and subclinical perforated viscus. (1) Subclinical microperforation of inflamed bowel permits escape of gases without leakage of bowel contents can lead to idiopathic pneumoperitoneum. (1) Common causes of ileitis are Crohn's disease and infections like salmonella (more common), Campylobacter, E.coli, Yersinia, Clostridium difficile, Mycobacterium tuberculosis, Mycobacterium avium-intracellulare complex, Actinomycosis, Aniskiasis, Cytomegalovirus and Histoplasmosis. (3) Spondyloarthropathies, vasculitides, ischemia, neoplasms, medication-induced, eosinophilic enteritis, amyloidosis, small bowel neoplasms, backwash ileitis, and infiltrative ileitis are also known to cause ileitis. (3)

Non-specific jejuno-ileitis is a non-occlusive and necrotizing inflammation of the ileum with mild to moderate changes in the mucosa. (4) It is often associated with malabsorption and is common in tropics and hot climates (South/Southeast Asia). It is a subclinical form of tropical sprue. Routine investigations and X-ray films are often nonspecific and the stool cultures do not show any organism. Immune mediation is suggested to be the cause. (4) The presentation can be acute (right lower quadrant pain, diarrhea, fever and blood in the stools), chronic (obstructive symptoms, bleeding and weight loss) or with complications like bleeding, stricture, fistulae or obstruction. (4) Abdominal ultrasound, CT scan and MRI show thickened small bowel loops and colonoscopy and double balloon enteroscopy help to diagnose areas of erosions, ulcers, hemorrhages and diaphragm-like strictures in the mucosa. Our patient was diagnosed as non-specific ileitis as no other cause apart from ileitis was found on surgical exploration. There is no reported case of non-specific ileitis causing perforation. The management of ileitis without perforation includes bed rest, low fiber diet, corticosteroids, antibiotics, analgesics, vitamins. (4)

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From: Department of Pediatric Surgery, TNMC and BYL Nair Hospital, Mumbai, India.

Address for Correspondence:
Dr Hemanshi Shah, Professor and H.O.D, Department of Pediatric Surgery, TNMC and BYL Nair Hospital, Mumbai 400008, Maharashtra, India

Email : hemanshisshah@gmail.com

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