

## Pneumoperitoneum resulting from pneumatosis cystoides intestinalis: a rare complication of massive colonic dilatation

Kian-Peng J. Ong · Kheng-Hong Ng ·  
Kiat-Hon Lim · Su-Chong A. Low ·  
Kong-Weng Eu

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A 69-year-old man presented with intestinal obstruction and peritonism. Chest and abdominal X-rays showed massive pneumoperitoneum with large bowel obstruction (Figs. 1, 2). Exploratory laparotomy revealed closed loop obstruction secondary to sigmoid volvulus with extensive pneumatosis cystoides intestinalis of non-dilated small bowel (Figs. 3, 4),

without evidence of perforation. We postulate that rupture of a submucosal cyst in the small bowel resulted in pneumoperitoneum. Total colectomy was performed, with ileocecal anastomosis and defunctioning ileostomy. Histology confirmed pneumatosis cystoides intestinalis of small bowel without full-thickness perforation (Figs. 5, 6).



**Fig. 1** Erect chest X-ray showing pneumoperitoneum

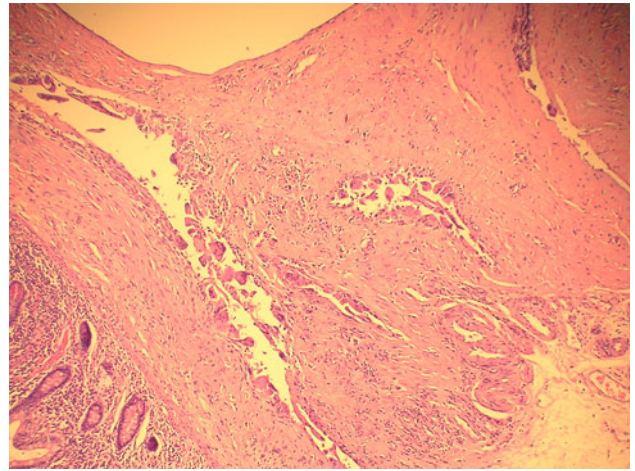


**Fig. 2** Supine abdominal X-ray showing grossly dilated large bowel and multiple, clustered, small gaseous lucencies in the right lower abdomen, probably caused by air within the bowel wall, characteristic of pneumatosis intestinalis

K.-P. J. Ong · K.-H. Ng · K.-H. Lim · S.-C. A. Low ·  
K.-W. Eu (✉)  
Singapore General Hospital, Singapore, Singapore  
e-mail: eu.kong.weng@sgh.com.sg



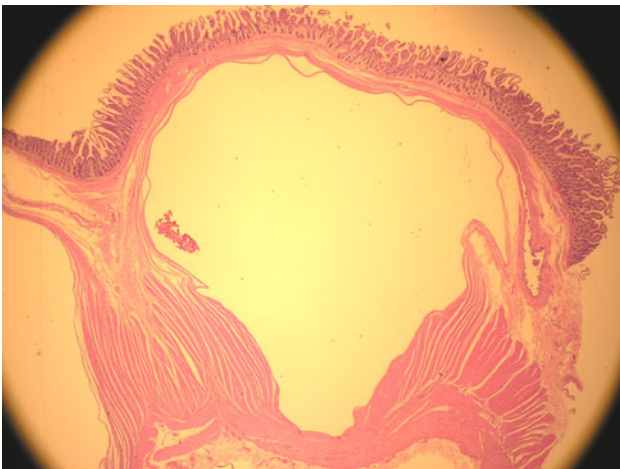
**Fig. 3** Intraoperative image showing extensive pneumatosis intestinalis of the non-dilated distal small bowel



**Fig. 6** High-power microscopic view showing foreign body giant cells lining the cystic spaces



**Fig. 4** Gross image showing cystic air bubbles in the submucosa



**Fig. 5** Low-power microscopic view showing large cystic lesion in the submucosa