

# Anorexia nervosa and necrotizing colitis

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**Summary:** Anorexia nervosa is associated with a mortality approaching 5% in patients severely enough affected to warrant hospital care (Hsu, 1980). The main causes of death are inanition, electrolyte disturbances or suicide. We report here a case of necrotizing colitis associated with anorexia nervosa, an association which has not been described previously.

## Case report

The patient was a 17 year old girl who had been under psychiatric care for 6 months for anorexia nervosa. She presented as a particular severe case with a 50% weight loss over the previous two years and had required admission for Clinifeed tube feeding as she was refusing both food and liquids. After two months tube feeding she developed colicky abdominal pain, constipation, nausea and vomiting which became more severe after 48 h with sudden deterioration in her general condition. She was transferred for general surgical opinion and management.

On admission she was clinically shocked with gross tympanitic abdominal distension and signs of generalized peritonitis. During full resuscitative procedures she had a grand mal fit. Abdominal radiographs showed free peritoneal gas with signs of portal venous gas (Figure 1). At laparotomy she was found to have faecal peritonitis with a grossly dilated colon which had several serosal tears and a perforation in the transverse colon. The recto-sigmoid junction to the distal third of the ileum was affected by necrotizing colitis with gas bubbles in the retro-colic tissues. A subtotal colectomy and resection of the affected ileum was performed with a rectal mucous fistula and an ileostomy. Despite full intensive therapy she died 8 h postoperatively from overwhelming septicaemia and disseminated intravascular coagulation.

A post-mortem confirmed the operative findings and demonstrated that there was no abnormality of

the mesenteric vessels and that the rectum was impacted with grey 'cement like' faeces. Portal vein gas was also confirmed with almost complete obstruction of blood flow. Although she had 0.5 cm of abdominal wall fat there was almost complete absence of omental or mesenteric fat.

## Discussion

The uncommon but well defined radiological sign of hepato-portal venous gas (HPVG) was originally reported in 1955 in association with necrotizing colitis in infants (Wolfe & Evans, 1955). It has been described since then in both adults and infants by Leibman and his colleagues (1978) who reviewed 60 cases. HPVG was associated with ischaemic bowel in 75% of cases, ulcerative colitis (8%), intra-abdominal sepsis (6%) and small bowel obstruction (3%). Mucosal damage, associated septic complications or bowel distension were present in 85% and it was suggested that the development of HPVG probably follows high intraluminal pressure which forces gas through damaged mucosa into the portal system. There is a 75% mortality associated with the sign of HPVG which is clearly indicative of serious underlying intra-abdominal pathology.

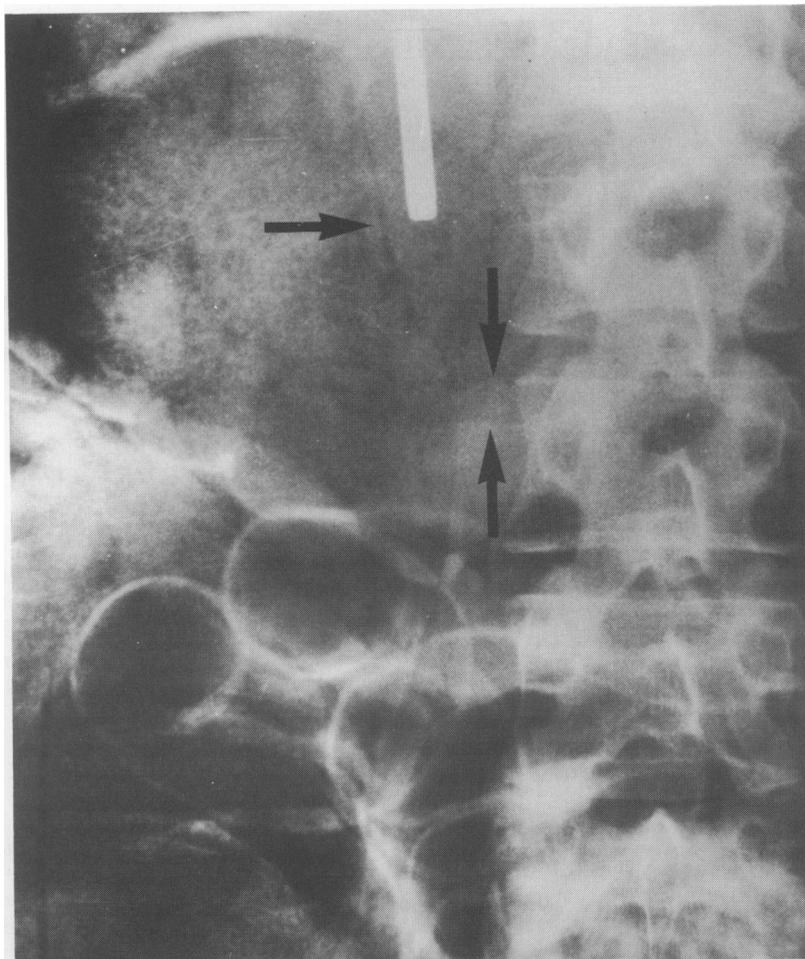
Killingback & Lloyd Williams (1961) reported six cases of necrotizing colitis and concluded that *Clostridium welchii* was the responsible organism; microbiological examination of faecal fluid and bowel wall in the present case only revealed mixed gut flora. Teasdale & Mortensen (1983) reported necrotizing colitis proximal to complete colonic obstruction and suggested that severe luminal distension, associated with closed-loop obstruction, might impair mucosal

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**Figure 1** Plain supine abdominal X-ray showing dilated loops of bowel and intra-portal venous gas (arrowed).

blood supply. It is suggested that in this patient her necrotizing colitis was secondary to a large bowel obstruction resulting from faecal impaction, which is common in anorexia nervosa.

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