Crohn's disease of the gall bladder

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SUMMARY A 64 year old man with known enteric Crohn's disease developed a granulomatous cholecystitis in which the histological features were identical to those seen in sites conventionally affected by this disease. Extraintestinal granulomatous lesions are rare in Crohn's disease and the present case is reported because of its apparent uniqueness.

It is well established that Crohn's disease may affect any part of the gastrointestinal tract including the oronasopharynx and anus. Extraintestinal complications of inflammatory bowel disease are also well recognised, but extraintestinal granulomatous lesions in Crohn's disease are uncommon. We report a case of granulomatous inflammation of the gall bladder in a known case of Crohn's disease of the small intestine.

Case report

The patient was a 64 year old man who twelve years ago developed a diarrhoeal illness which was shown to be due to inflammatory bowel disease; at that stage the disease was apparently restricted to the rectum.

Eight years later he had recurrent illness, which was accompanied by pain in the right hypochondrium and epigastrium. Clinically this was thought to be gall bladder disease. Barium enema, gastroscopy, and sigmoidoscopy were normal as was an oral cholecystogram, but barium meal showed Crohn's disease of the terminal ileum. At laparotomy the distal 30 cm of the terminal ileum was found to be diseased. This was resected together with a little apparently normal colon. Histopathological examination confirmed the presence of Crohn's disease. At this time the gall bladder was visually normal and remote from the affected ileum.

He recovered reasonably well from this operation, but 18 months later he developed right mid-quadrant pain with vomiting and manifest incomplete small bowel obstruction. At emergency laparotomy a small zone of recurrent Crohn's disease of the small intestine was found, and this was excised. Again, the gall bladder was macroscopically

unremarkable and remote from the affected part of the small intestine.

After this operation he had some wound problems which ultimately settled. Six months later he had an attack of ill defined right upper abdominal pain with fever and some diarrhoea. He had similar attacks intermittently for the next year. Investigations during that period by ultrasound examination and an oral cholecystogram showed a poorly functioning gall bladder containing calculi. Clinically it was not certain if he had recurrent Crohn's disease or gall bladder disease or both. He settled on steroid treatment and remained well throughout 1982.

In February 1983 he was readmitted to hospital with fever, right upper abdominal pain, and vomiting. He had lost a lot of weight and on examination he had an ill defined mass in the right iliac fossa and tenderness in the right upper abdomen. Antibiotics were prescribed but he developed a faecal fistula, which at operation was found to go down to the old ileo-colic anastomosis. This was thickened and clearly the site of recurrent Crohn's disease. The gall bladder wall was also thickened and contained multiple stones, but was still quite separate from the recurrent Crohn's disease. The ileo-colic anastomosis, faecal fistula, and gall bladder were removed. The patient recovered well from this operation and when seen three months later he was well.

PATHOLOGICAL FINDINGS

The gall bladder measured 70 × 40 × 25 mm. It had been opened and the calculi had been removed. The mucosa was slightly granular and the wall moderately thickened. Microscopically the surface epithelium was intact but slightly polypoid. There were no fissure ulcers. The lamina propria showed a pronounced active chronic inflammation, and the

Fig. 1 Granulomata (arrow heads) in the mucosa of the gall bladder. Haematoxylin and eosin $\times 100$.

Fig. 2 Multinucleated giant cells in the granuloma illustrated in Fig. 1. Haematoxylin and eosin. Original magnification $\times 250$.

Fig. 3 Lymphoid follicle (F) protruding into the lumen (L) of a dilated lymphatic channel, Haematoxylin and eosin. Original magnification $\times 400$.

muscle layers were hypertrophied. There was also pronounced fibrous thickening and active chronic inflammation of the serosa. Numerous well formed compact epithelioid type granulomata containing

multinucleated giant cells with both the Langhan's and foreign body type nuclear patterns were seen in the lamina propria (Figs. 1 and 2) and in the serosa. Lymphoid aggregates were also present throughout the full thickness of the bladder wall and dilated lymphatic channels were seen (Fig. 3).

Aschoff-Rokitansky sinuses were frequent; some showed focal disruption and extravasation of mucus and a mixed inflammatory response around the pools of mucus. At the neck of the gall bladder there was a solitary cholegranuloma. Periodic acid Schiff and Ziehl-Nielsen stains failed to show any pathogenic micro-organisms. There was no birefringent material.

Sections from the resected small intestine showed classic features of Crohn's disease.

Discussion

Epithelioid granulomata are one of a number of possible changes seen in the liver in cases of enteric Crohn's disease,¹ but such lesions do not appear to have been previously reported in the gall bladders of these cases. A five to 10 fold increase in the incidence of gall stones has been reported in Crohn's disease of the terminal ileum, presumably as a consequence of a disturbance in the bile salt metabolism. Gall stones were indeed found in the present case, but the major feature was a granulomatous inflammation affecting the full thickness of the gall bladder wall. Most of this inflammatory process was similar to that seen in enteric Crohn's disease, with transmural inflammation, epithelioid granulomata formation, lymphoid follicle aggregation, and lymphatic channel dilatation. The extent, exuberance, and nature of the process was quite unlike any reaction seen by us in numerous cases of cholelithiasis. Indeed, one cholegranuloma was seen but this was very much a minor feature of the total process.

We therefore conclude that the reaction was an involvement of the gall bladder wall by Crohn's disease and we report the case because of its apparent

uniqueness. The process was transmural and the granulomata were randomly distributed throughout the full thickness of the gall bladder. In particular, there was no evident concentration in the serosa, and this, together with the fact that the diseased enteric segment was never seen in close proximity to the gall bladder, allows us to suggest that the gall bladder lesion arose de novo and not as a consequence of spread by contiguity.

As stated earlier, extraintestinal granulomatous lesions in Crohn's disease are uncommon but have been described in bone,² synovium,³ skeletal muscle,⁴ and in the vulva.⁵ Involvement of the more proximate but still extraintestinal organ such as the gall bladder must be very rare. We have been unable to find a previously reported case and since many patients with Crohn's disease have cholecystectomy with subsequent histopathological examination the finding of such a distinctive process in the gall bladder would surely have elicited comment.

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