A CASE OF ENTERO-VESICAL FISTULA

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Introduction

Non-traumatic entero-vesical fistulae are most commonly the result of colonic diverticular disease [1]. Other common causes are neoplasia [2], Crohn's disease [3] and radiation injury [4]. As for the site, the most common fistulae are ileo-vesical or colo-vesical [5]. Intestinal amoebiasis causing entero-vesical fistulation is very rare. We present a case of caeco-vesical fistulation caused by florid, undiagnosed and untreated amoebiasis. We have not been able to find a similar report despite an extensive literature search.

Case Report

An 80-year-old wandering minstrel, presented on 4-2-98 with a lump in the right iliac fossa of two months duration. This lump had gradually been increasing in size and was associated with dull pain. Owing to his wandering life-style his dietary and bowel habits were irregular. He also complained of dysuria off and on; but there was no history of haematuria, pneumaturia or faecaluria. On examination he was frail and asthenic. There was a 10 x 8 cms firm, irregular, slightly tender lump in the right iliac fossa.

Clinical impression was a caecal malignancy, with ileo-caecal tuberculosis as a second possibility. All routine investigations were normal except urine RE which showed RBCs 2-4/HPF and pus cells 12-14 HPF. Urine culture was sterile. Ultrasound revealed a hyper-echoic, irregular mass lesion on the right superolateral aspect of the urinary bladder (5x3x3 cms), causing hydro-ureteronephrosis. Sonological impression was carcinoma urinary bladder. FNAC from the lump showed cytology representative of intestinal mucosal sampling with some atypia and dysplastic changes. Further evaluation was planned with IVU, cystoscopy, barium enema and CT scan.

However, the patient went into oliguria on 9-2-98: also, he had twice passed greenish, watery stools. Clinically, hydration was satisfactory and renal parameters and electrolytes were normal. There was lower abdominal distension and a dull, tender lump was palpable supra-pubically. On the surmise that this was a distended bladder, the patient was catheterized; but surprisingly little urine drained. A fluid challenge was given. The urine output did not increase: instead the patient passed two more loose stools. An urgent USG showed an empty urinary bladder. Clinical impression was that the patient had developed an entero-vesical fistula. A cystogram (Fig-1) was done through the urethral catheter, which

confirmed the caeco-vesical fistula. On 10-2-98 the patient's general condition worsened and he became confused. The abdomen was distended, tense and tender. With a diagnosis of peritonitis and septicaemia an exploratory laparotomy was performed.

At laparotomy there was faeco-purulent peritoneal collection. The caecum was a gangrenous mass stuck to the bladder. The anterior caecal wall had a free perforation into the peritoneal cavity. The bladder had thick, necrosed wall and was incorporated within the caecal phlegmon. The entire colon was dilated and filled with urinerous fluid. A right hemi-colectomy along with the removal of the entire necrosed mass was done. The remnant bladder was not fit to hold any kind of repair. Bilateral cutaneous ureterostomies were done and the urethral catheter left in situ to drain the pelvis.

In the post-operative period the patient went into uraemia, Gram negative septicaemia, MSOF and eventually died on 13-2-98.

Fig. 1 : Cystogram showing caeco-vesical fistula

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Fig. 2 : Micro section from the caecum showing remains of mucosal element and numerous *E. histolytica* trophozoites

Fig. 3 : High power view of the boxed area in Fig. 2 showing multiple trophozoites (HE 400 times)

Histopathological examination of the necrotic caecum and the adjacent part of the oedematous, inflamed mesentery revealed areas of necrosis, abscess formation and granulation tissue. The caecum (Figs 2, 3) and the inflamed mesenteric tissue (Fig 4) was found to be teeming with trophozoite form of *E. histolytica*. There was no evidence of any neoplastic process in the multiple sections examined. Histological diagnosis of fulminant amoebic colitis was established.

Discussion

Colo-vesical fistula was first described in 1685. Modern literature originates from the monograph of Harrison Cripps [6] who recorded 63 cases. A vesico-enteric fistula occurs in only 1 of 3000 surgical hospitalisations [7] and of the entero-vesical fistulae the colo-vesical variety is the commonest [8].

Aetiologically diverticulitis and its complications are responsible for about 70% to 76% [8] of non-traumatic colo-vesical fistulae. The next common cause is neoplasia (of either the caecum/colon or the bladder) [9] accounting for 15% [1] to 46% [2] of cases. Other causes are Crohn's disease-7% to 15% [4]; radiation-10% [1]; rare causes (common in the past) are typhoid, tuberculosis, venereal diseases and actinomycosis [1,4,7].

Fig. 4 : Mesenteric tissue showing intensely PAS positive trophozoites (HE 400 times)

The fistula is mostly left sided and is commonest in the recto-sigmoid region [4,7]. Right sided entero-vesical fistulae are extremely uncommon and usually the sequel of carcinoma of the caecum penetrating the bladder or vice-versa. In our case the fistula was right sided and resulted from an amoebic granuloma of the caecum penetrating the bladder. Though the operative findings were strongly suggestive of carcinoma caecum, histopathologically malignancy was categorically ruled out. In Crohn's disease the ileum is the usual site of fistulation though it is reported in the sigmoid colon also [10]. Clinically many fistulae may be asymptomatic. Pneumaturia is the pathognomonic symptom. It is present in 59% to 85% [8]. Another classical symptom is faecaluria, which is much less common (38%) than pneumaturia [1]. Passage of urine per rectum is commoner in recto-vesical rather than colo-vesical fistulae, where it is seen in 8% of the cases [1,11].

Pre-operative diagnosis may not be possible in as many as 45% cases [1]. Roentgenographic investigations which help are barium enema and IVU. These demonstrate the fistula in 30% to 56% cases [4,11]. Colonoscopy and proctosigmoidoscopy may pick up the fistula but cystoscopy is the most useful investigation, being diagnostic in upto 77% of cases [11]. Cystogram may not demonstrate the fistula [12] but some features which have been described are: 'beehive sign' (edema, elevation of the bladder wall and prominent mucosal folds) and the 'herald sign' (a crescentic defect on the upper margin of the bladder).

Surgical treatment should be considered in all patients because 6% of those denied operation will die of septicaemia [5]. Chronic renal failure from chronic pyelonephritis is also a potentially lethal complication of untreated entero-vesical fistulas.

The surgical options available are as follows:1)

proximal colostomy alone in the hope that the fistula will close spontaneously. This rarely happens [12] and the morbidity and mortality do not justify this approach [1,4]. II) A three staged procedure involving colostomy, resection and anastomosis followed by closure of colostomy. But only 33% of cases complete the three stages successfully. III) Another approach is to divide the fistula alongwith closure of the bowel and bladder defects with omental interposition. IV) Most of the cases today are managed with a single stage procedure which usually amounts to resection of the diseased bowel segment, a partial cystectomy, bladder wall repair and primary bowel anastomosis [13].

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