Caecal Bascule - a Potential Clinical and Radiological Pitfall

Case Reports

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SUMMARY

Caecal volvulus is usually associated with a twisted caecum, seen to occupy the umbilical area or left hypochondrium on radiography. Caecal bascule refers to the form of volvulus in which the distended caecum is situated within the pelvis. The caecal bascule type of obstruction is uncommon, and clinical and radiological appearances may be confusing. Two cases are presented and the incidence, pathogenesis and radiological features are discussed.


Volvulus or torsion of the caecum is a well-described but relatively uncommon clinical entity. One per cent of acute mechanical obstructions have been attributed to caecal volvulus and the latter has been found to account for 44% of all forms of colonic volvulus.

The usual radiographic appearance associated with caecal volvulus is that of a distended caecum positioned upward and to the left. It may, however, be found anywhere in the abdomen and transverse axial rotation of the caecum may result in the caecal bascule with the twisted caecum situated within the pelvis. In the presence of a competent ileocaecal valve, a closed loop type of obstruction with marked ballooning of the caecum may result. Lack of awareness of the entity may lead to a confusing clinical and radiological appearance. Two cases of this form of obstruction are presented.

CASE REPORTS

Case 1

A 30-year-old woman presented with marked lower abdominal pain and tenderness. She complained of a few similar but less severe episodes in the past year. A plain radiograph of the abdomen showed distended large bowel within the pelvis (Fig. 1) and a barium enema was carried out. Barium passed up to the caecocolic junction, and on a delayed postevacuation film it filled the large distended caecum in the pelvis (Fig. 2). The patient was placed on drip and nasogastric suction, with prompt relief of symptoms. The barium enema was repeated and on this occasion the caecum was in a slightly higher position, was not distended and filled readily. However, a slight twist was evident at the caecocolic junction (Fig. 3).

No operation was carried out and the patient was discharged shortly after admission.

Case 2

A middle-aged White woman presented with abdominal distension and pain in the right lower abdomen. Apart from tenderness in the right lower quadrant of the abdomen, physical examination was normal. A plain radiograph of the abdomen showed an unusual gas shadow in the pelvis. A barium enema was carried out and showed the barium to be obstructed at the caecocolic junction (Fig. 4). The gas shadow within the pelvis, while not filled with barium, appeared to have haustral markings...
and was interpreted as being the caecum which had undergone a volvulus. At laparotomy a very dilated caecum was found in the pelvis. It was trapped by adhesions at the caecocolic junction. The adhesions were freed and a caecopexy was performed.

DISCUSSION

The original description of caecal bascule was by Treves' in 1899. At about 26 weeks of intra-uterine life the caecum and appendix descend from under the liver to their normal position in the right iliac fossa and are finally fixed to the posterior abdominal wall. Failure of fusion of the right colonic mesentery with the lateral parietes may occur, so that while the right colon and caecum occupy their normal position they are relatively unattached and free to rotate on their mesentery.

Three main types of volvulus of the caecum have been described: (i) rotation in an oblique axis, in which the caecum may occupy the umbilical or even the left hypochondrial region; (ii) rotation of the caecum about its long axis; and (iii) caecal bascule, in which the posterior surface of the caecum looks forward and the axis of rotation is traverse.

Weinstein described the caecal bascule as obstruction similar to caecal volvulus, but caused by the caecum folding anterior to the ascending colon. The posterior surface of the caecum thus becomes anterior while the appendix and the lowest point of the caecum become uppermost. This produces the so called 'flap valve' occlusion to caecal emptying.

A closed loop obstruction develops if the ileocaecal valve is competent. The caecum, unable to decompress retrogradely into the small bowel, becomes distended and this distension is often compounded by the products of bacterial metabolism. The end-result may be that of ischaemic changes due to venous and capillary constriction and, with increasing diameter of the caecum, gangrene and perforation may occur.

The plain film radiological findings are those of a distended caecum occupying the lower abdomen and pelvis. The appearance in the pelvis may simulate a distended sigmoid loop, but this can soon be differentiated on barium enema. The barium study, which is essential for diagnosis
Fig. 4. Large bowel outlined on postevacuation film following barium enema. The caecum (arrowed) did not fill with barium.

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