(*Refer to page 101*)

Answer: Severe constipation with rectal impaction and spurious diarrhoea

The plain abdominal radiograph showed severe feacal loading and impaction in the rectum. The grainy shadows are due to air pockets within feaces.

Constipation is common (2-27% of adult population, especially females and the elderly) and is defined as passage of ≤3 stools per week. However, passage of hard stool or difficultly in evacuation is also considered as constipation. The Rome III criteria is widely used to define constipation (*Refer to Supplementary Text*). [1]

Constipation can be categorised into slow transit or 'colonic inertia' or defeacation disorder/dysfunction (Pelvic floor dyssynergia or anismus). [2] Colonic inertia is where the propulsive bowel movements are ineffective, and all segments of the colon affected. In defeacation disorder, the colonic motility movement is intact, but there are problems at the rectum level, resulting in inability to expel stool effectively. Defeacation disorder, different from rectal obstruction from anatomic lesions such as tumour and stenosis (post radiotherapy, surgery or interventions), is due to incoordination of the defeacation mechanism. During defeacation, the puborectalis muscle relaxes resulting in straightening of the rectal passage. Along with the contractions of the abdominal wall muscles and relaxation of the anal sphincters, the stool in the rectum is expelled. In defeaction disorder, the puborectalis muscle fail to relax and in some cases actually contracts, resulting in more acute angulation of the rectal passage.

Basic investigations for constipations requires the exclusion of other causes: hypothyroidism, diabetes mellitus, medications (iron supplements, calcium antagonist, neurological disorders etc…) and tumour (barium enema or endoscopy). More specific investigations include transit study using metal pellets, defeacogram (*Refer to Supplementary Text*) and manometry study. [2, 3] However, these investigations are now not hardly used or only available in certain centres.

Constipation was believed to be related to lack of fibre intake. However, it is now believed that fibre plays a smaller role. Despite this, the management of constipation is still with fibre supplementation or stool softener (lactulose). Prokinetics (previously cisapride, tageserod and praculopride) or bowel stimulants (senna and bisocodyl) can be used. For defeacation disorders, bowel retraining with biofeedback has been shown to be effective. Patients are also advised adequate fluid intake and lifestyle modifications (increasing physical activities). The role of surgery is limited role but effective for some patients (colonic inertia). [2, 3]

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