RETROPERITONEAL FIBROSIS: A RARE COMPLICATION OF BARIUM ENEMA PROCEDURE

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Introduction

Barium enema is a valuable radiologic evaluation of the colon. Complications of this procedure are rare and include perforation of the colon (intraperitoneal, extraperitoneal, or intramural), fatal pulmonary embolism, and liver abscess.

Case Report

The patient was a 28-year-old woman who was admitted to the Emergency Unit of Taleghani Hospital, Tehran with the chief complaints of severe abdominal pain and rectal bleeding.

She had a history of vague abdominal pain from several months before admission and had been referred by her physician to a private radiology clinic for a diagnostic barium enema examination. This was done in the morning of her admission day. Her husband requested a female technician to insert the rectal tube and since there was no female technician available at the time, the radiologist simply asked his office secretary to do so.

The patient went in to shock from severe pain and started having rectal bleeding, a condition that she had never experienced before. The procedure was completed and she was referred to the hospital.

On admission, the patient was stable with normal vital signs. She developed lower abdominal and back pain with no rebound tenderness. On inspection, she had a 1.5 to 2 cm localized perineal laceration, midway between the anus and tip of the coccyx from which there was a mild oozing (Figure 1).

Plain X-ray revealed contrast extravasation in the pelvic area (Figure 2). After proper preparation, the patient was taken to the operating room with preoperative diagnosis of bowel perforation. Rectosigmoidoscopy and laparotomy under general anesthesia were performed. Laparotomy showed no evidence of bowel perforation. The barium had been introduced into the presacral space by a forceful perforation of the perineal skin causing retroperitoneal irritation. Presacral drains were inserted and the area was irrigated with normal saline.

Postoperatively, she recovered slowly and was discharged with regular follow-up visits. Six months later, she complained of pain in her left flank and an intravenous pyelogram showed left hydronephrosis and hydroureter (Figure 3). Her

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renal function tests were normal. Placement of a ureteral J tube through an endoscope did not help the patient restore normal urinary flow (Figure 4). Two months later, her left kidney was removed and autotransplanted in her right iliac fossa. One year later, she was well and the ultrasonogram was normal.

**Discussion**

Barium enema is one of the most valuable examination for identifying colonic disease. The only classic contraindication to the procedure is suspicion to a perforation of the colon.2

Complications of barium enema are rare and include those related to enema and cleaning the material (perforation, water intoxication, detergent colitis, thermal burns, and laceration of rectum), or related to barium suspension (impaction and severe reaction to barium, and intraperitoneal, extraperitoneal, and intramural perforation leading to formation of barium granuloma).3

Soilage of the peritoneal cavity by barium contents causes a nidus for infection and peritonitis, adhesions, and granuloma formation.3 Barium stimulates phagocytosis and a fibroblast reaction. Barium seems to act as an adjuvant with feces.4

The other rare complications of this procedure include disseminated intravascular coagulopathy and hypotension after intravasation of barium,5 severe allergic reaction,6 arterial obstruction,7 and retroperitoneal fibrosis.8

**References**


2 Bartram CA. The large bowel. In: Grainger RG, Allison DJ, eds. *Diagnostic Radiology: An Anglo-


