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Transmural Migration of Mesh after Abdominal Rectopexy Presenting as Large Bowel Obstruction: A Rare Cause

Tanveer Hassan Banday[1*], Dr. Adnan Rafiq[2], Shah Naveed[3], Dr.Charungu[4], Sadaf Bashir Bhat[5]
[1]Assistant Professor, Department of Medicine, AIMS, Bangalore, Karnataka, India
[2]Assistant Professor, Department of Gastroenterology, ASCOMS, Jammu – 180004, Jammu and Kashmir, India
[3]Senior Resident, Department of Surgery, SKIMS, Soura, Srinagar, Jammu and Kashmir, India
[4]Professor, Department of Surgery, ASCOMS, Jammu – 180004, Jammu and Kashmir, India
[5]Postgraduate Student, Department of Pathology, AIMS, Bangalore, Karnataka, India

***Corresponding Author:**
Name: Tanveer Hassan Banday
Email: drtanveerbanday90@gmail.com

Abstract: This case reports the presentation and investigation of a 55-year-old woman presenting with symptoms of large bowel obstruction and found to have synchronous intraluminal migration of a polypropylene mesh from a abdominal rectopexy done 2.5 yrs back. Mesh migration is an infrequent occurrence, and is rarely reported in the literature. Those that are usually involve the urinary bladder. In particular, review of literature shows no reports of cases of mesh migration into the rectum several years after into the rectum presenting as sub acute intestinal obstruction.
Keywords: Rectopexy, complication, polypropylene mesh , mesh migration and large bowel obstruction

INTRODUCTION

Transmural migration of mesh is a very rare complication of mesh rectopexy. Complications include large bowel obstruction, erosion of the mesh through the bowel, ureteric injury or fibrosis, small bowel obstruction, rectovaginal fistula, and fecal impaction. Mesh migration is an infrequent occurrence, and is rarely reported in the literature. The risk factors related to transmigration can be broadly divided into patient-related, mesh-related and technique or procedure-related. Type and size of mesh may have an implication on the rate of erosions. Silicone-coated polyethylene or polyester (Type IV) can also serve as a focus for chronic infection increasing the possibility of erosions and infections[1].We present a case of delayed transmural mesh migration from the posterior rectal wall into the rectum presenting as sub acute intestinal obstruction.

CASE REPORT

A 55-year-old female presented to the E D complaining of intermittent abdominal pain diffusely over the entire abdomen, constipation and abdominal distension since 4 days. Physical exam showed abdominal distension, exaggerated bowel sounds and moderate tenderness at left lower quadrant. Diagnosis of subacute intestinal obstruction was made. She had a history complete rectal prolapse for which abdominal mesh rectopexy was done 2.5 years back. Her post-operative course was uncomplicated. DRE revealed empty rectum with no other positive findings. All baselines LFT, RFT& Electrolytes investigation were normal. X-ray abdomen showed large bowel obstruction. CECT abdomen and pelvis showed features of large bowel obstruction and transmural migration of mesh into the rectal lumen, rest of the bowel was normal (fig. 1).

Fig. 1: CECT Abdomen and pelvis showing transmural mesh migration into rectum

Colonoscopy was performed which confirmed mesh in the rectum, the scope was negotiable past the obstructing mesh and rest of the lumen was normal (fig. 2).

Fig. 2: Colonoscopy showing mesh migration into rectum

In view of the patients past history of mesh rectopexy with polypropylene mesh, our finding was consistent with partial migration of the previous surgical mesh into the rectum. The mesh appeared to have eroded into the lumen, but there was no enterocutaneous fistula or any other enteroentric fistula on clinical exam, colonoscopy and CECT abdomen. Based on the patients minimal symptoms, and associated comorbid conditions (poorly controlled blood glucose levels and obesity) and prompt response to conservative management, we decided to observe the patient. The patient was discharged after 5 days with complete resolution of symptoms with instructions to return in case of any significant symptom developed. Patient returned to our OPD after 4 wks when she had passed the mesh with the feces that morning. Examination did not show any abdominal signs.

DISCUSSION

Rectal prolapse is defined as a protrusion of the rectum beyond the anus [1], is distressing condition especially when associated with faecal incontinence and constipation. It usually occurs in children or elderly. Rectopexy is procedure used to correct rectal prolapse. In adult patients, treatment of rectal prolapse is essentially surgical. Children can usually be treated by managing the underlying condition without resorting to surgery. Which is the best surgical repair is the main controversy in surgery for rectal prolapse [2]. Surgical treatments can be divided into 2 categories on the basis of the approach used to repair the rectal prolapse: abdominal procedures and perineal procedures. The choice between an abdominal procedure and a perineal procedure is mainly depends upon the patient's age and associated co morbidities [3]. Nowadays laparoscopic approach is favoured as it has better results in terms of less post-operative pain, shorter hospital stay and lower cost [4]. Abdominal approach is still favoured by the conventional colo-rectal surgeon who is well versed with the technique and its outcome [5]. Various materials have been recommended to secure the rectum, including autologous fascia lata, synthetic nonabsorbable products such as Marlex, Teflon and absorbable prosthetics such as polyglycolic acid [6]. Mesh a foreign body is prone to this infection, transmural migration of mesh is a very rare complication of mesh rectopexy. Complications after rectal prolapse surgery include infection, bleeding, anastomotic leakage, intestinal injury, bladder and sexual function alterations, large bowel obstruction,fecal impaction ,constipation and erosion of the mesh through the bowel [7]. Hence, pre-operative and post-operative antibiotics coverage is required .Migration to a completely intraluminal position is exceedingly rare & is rarely reported in the literature. Mesh migration occurs generally via two mechanisms. Primary mechanical migration occurs when an inadequately secured mesh traverses along adjoining paths of least resistance or if a relatively secure mesh is displaced by external forces [8]. Secondary migration occurs through trans-anatomical planes and is the result of erosions triggered by foreign body reaction [9].This mechanism has been supported by the presence of inflammatory granulation tissue at the site of migration . The latter process is gradual and may take several years [10]. The method of fixation may affect migration rates by altering the degree of movement of the mesh and its tensile strength. Once there is erosion of the mesh into the bowel, the question is whether or not it should be repaired. Repair would entail laparatomy, bowel resection, mesh resection, and anastomosis. In conclusion, migration and erosion of mesh is a rare complication, especially when polypropylene mesh is used. It can occur years later and should be considered in atypical patient presentations. Given the popularity of the various surgical procedures requiring placement of mesh, this complication may be frequently encountered. Clinician should thus be aware of the potential complications and the appropriate management of such cases.

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