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Intestinal Obstruction Caused by Mesh Rejection Following Umbilical Hernia Repair : A Case Study

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Abstract: ***The use of mesh has become the gold standard in hernia operations recently due to advantages such as lower recurrence rates, lower post-surgical pain. Although rare, there may be complications of surgery such as mesh rejection , mesh erosion. The pathophysiological mechanisms of this complication can be ascribed to the chronic inflammatory reaction due to the mesh, that causes progressive erosion of the parietal peritoneum and adhesion of intestinal loops to the abdominal wall . Penetration of the mesh into the gut is rare by the peristalsis. Bowel loop adhesion to the peritoneum is common if mesh positioned intraperitoneally. Here we discuss a rare case of intestinal obstruction caused by mesh rejection following recurrent umbilical hernia repair , proceeded with mesh extraction from bowel and anatomical repair of the hernia , because mesh was involved in the observed complication and intestinal contamination was present.***

Keywords: Hernia repair, mesh rejection, intestional obstruction, small bowel, laparotomy, case study

1. Introduction

There are many causes of intestinal obstruction; example - adhesions and other mechanical causes of mesh migration is one of the rarest cause. Many reports of mesh migration after laparoscopic or open inguinal hernia repair can be found in the literature. 3(OLMI 34(3): p 70-73, March 2013.) This study aims to report a case of intestinal obstruction of mesh migration following recurrent umbilical hernia repair with complaints of abdominal pain where patient presents to Emergency Department.

2. Case Report

A 40 year old female presented with abdomen pain of 2 weeks duration, pain increased in intensity over the last 48 hours of presentation. Other symptoms include intermittent vomiting, abdominal distension. Examination reveals a diffuse, painful abdomen upon deep palpation across all quadrants. The patient has a history of surgical interventions, including an open umbilical herniorrhaphy in 2013, an open umbilical hernioplasty in 2015, and a laparoscopic umbilical hernioplasty accompanied by a hysterectomy in 2018. A contrast-enhanced computed tomography (CECT) scan of the abdomen indicated signs of closed- loop obstruction affecting the distal jejunum and proximal ileum, as well as a recurrent incisional hernia. The mid jejunal loops were observed to be dilated, with two adjacent transition points identified in the distal jejunal and proximal ileal segments, alongside collapsed distal ileal and large bowel loops. The recurrent incisional hernia of defect measuring 2.3 cm, accompanied by significant inflammatory changes in the surrounding tissue. 5*(Foschi, D., Corsi, F., Cellerino .Surg Endosc 12, 455–457 (1998).* Consequently, the patient was scheduled for an exploratory laparotomy. Intraoperative findings revealed dense adhesions between the anterior abdominal wall, small bowel and mesh, with the mesh having eroded into the small bowel. A small bowel resection and anastomosis were performed, and the residual defect was repaired using single polypropylene sutures. During the postoperative period, the patient developed a surgical site infection caused by Acinetobacter baumannii, which was managed with appropriate antibiotics, leading to her discharge on the seventeenth day post-surgery. Histological examination indicated a necro inflammatory process characterized by transmural inflammation and serositis.

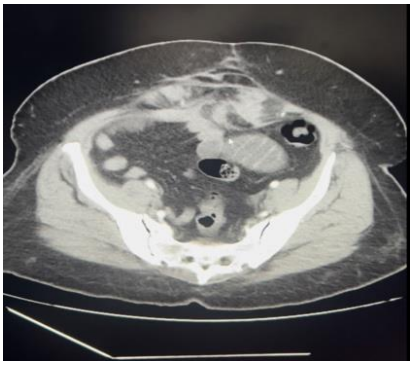

Figure 1: CECT ABDOMEN showing features of closed loop obstruction involving distal jejunal , proximal ileal loops and recurrent incisional hernia.

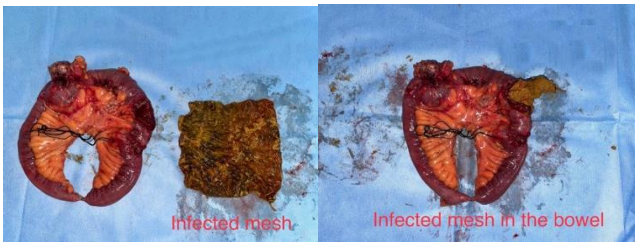

Figure 2a, 2b: Image shows infected mesh with resected small bowel

3. Conclusion

The pathophysiological mechanisms underlying this complication can be attributed to a chronic inflammatory response elicited by the mesh, which leads to progressive erosion of the parietal peritoneum and the adhesion of intestinal loops to the abdominal wall. The peristaltic movement facilitates the penetration of the mesh into the gastrointestinal tract. Under certain conditions, the foreign body may migrate into the intestinal lumen and be expelled; however, in other instances, the mesh may be drawn toward the skin. During the repair of the residual parietal defect, we opted not to use an additional mesh, as the existing mesh was implicated in the complication and intestinal contamination was evident 2*(Majeski J: 1998; 91:496-98.)* This case underscores the importance of considering potential complications in patients with a history of hernia repair using mesh. Surgeons should be aware of the risks of mesh erosion and its potential to cause life-threatening conditions such as bowel obstruction.

References

[1] Chuback JA, Singh RS, Sills C, Dick LS: Small bowel obstruction resulting from mesh plug migration after open inguinal hernia repair. Surgery, 2000; 127(4): 475-76.

[2] Majeski J: Migration of wire mesh into the intestinal lumen causing an intestinal obstruction 30 years after repair of a ventral hernia. South Med J, 1998; 91:496-98.

[3] **Small bowel obstruction caused by mesh migration. Case report by** OLMI, S.[1, 2]; UCCELLI, M.[1, 2]; CESANA, G.[1, 2]; CICCARESE, F.[1]; CARRIERI, D.[1]; CASTELLO, G.[1]; LEGNANI, G.[1, 2]Il Giornale di Chirurgia - Journal of the Italian Association of Hospital Surgeons 34(3):p 70-73, March 2013

[4] Bowel obstruction secondary to migration of a Ventralex mesh: report of a rare complication: Case report by D. Tsapralis, G. Vasiliades, Z. Zaxou, M. Delimpaltadaki, T. H. Margetousakis, H. Papadakis, A. Machairas & E. P. Misiakos

[5] Late rejection of the mesh after laparoscopic hernia repair Second Department of Surgery, Institute of Biomedical Science H. San Paolo, University of Milan, via A.di Rudini 8, 20142 Milan, Italy, IT D. Foschi, F. Corsi, P. Cellerino, A. Trabucchi & E. Trabucchi