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Colovesical and Colovaginal Fistulas Secondary to Perforated Sigmoid Diverticulitis - A Rare Case Presentation and Repair Done by Hand Assisted Laparoscopy

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Abstract: ***This case report details a 60 - year - old female presenting with colovesical and colovaginal fistulas secondary to perforated sigmoid diverticulitis. With a significant surgical history including hysterectomy and salpingo - oophorectomy, the patient underwent diagnostic evaluation with CECT, which confirmed the fistulous communications. The patient was managed successfully with hand - assisted laparoscopic repair, including sigmoidectomy, colorectal anastomosis, and diversion loop ileostomy, leading to an uneventful recovery. This report highlights the challenges and benefits of combining minimally invasive techniques with open surgery principles in complex fistula repair.***

Keywords: Diverticulitis, Colovesical fistula, Colovaginal fistula, Hand-assisted laparoscopy

1. Introduction

Diverticular disease is prevalent worldwide, and its prevalence rises as individuals age. Serious complications from complicated diverticulitis include peritonitis, blockage, fistula, and abscess. ((1) Diverticular disease is the most frequent cause of Colo - vesical or Colo - vaginal fistulas, which are uncommon complications of perforation of diverticulitis. Clinical signs, such as fecaluria and pneumaturia along with vague abdominal pain are required to confirm its presence. (2) The purpose of this case report is to present a rare occurrence of colovesical and colovaginal fistulas due to perforated sigmoid diverticulitis and to discuss the efficacy of hand - assisted laparoscopic repair in such complex cases.

2. Case Presentation

A 60 - year - old female came to KLES, Dr. Prabhakar Kore Hospital, Belagavi with the chief complaints of pain in the lower abdomen for 2 years associated with recurrent episodes of fever, burning micturition and passing of stools through vagina. Patient had undergone Hysterectomy with salpingo - oophorectomy 24 years back.

On examination, Abdomen was distended with tenderness in the lower abdomen and Bowel sounds were present. On CECT (Abdomen + Pelvis) a Heterogeneously enhancing mucosal thickening noted involving sigmoid colon for a length of 3.6cm with thickness of 1.1cm with an exophytic component arising from left lateral wall in left iliac region measuring 3.5 x 1.5 x 2.2 cms. The exophytic component is suggestive of diverticulum and closely associated with the left superolateral part of bladder and vaginal vault. However, on rectal contrast there was leak of contrast into vaginal vault.

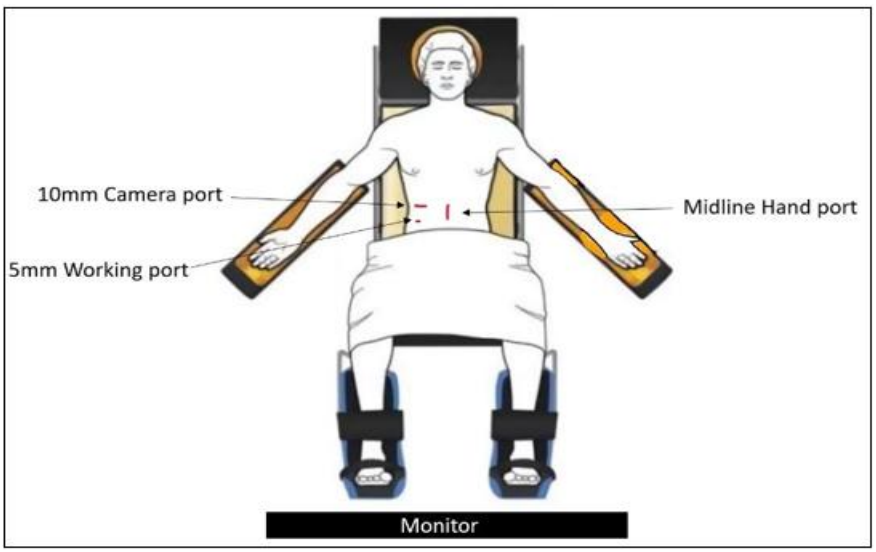

Figure 1: Placement of Hand ports

Patient was taken up for OT, A 5cm hand port wound protector used at midline. Camera port at right paraumbilical region and 5mm working port at right ASIS. The sigmoid colon was densely adhered to the bladder and vaginal vault, which was carefully dissected. No malignancy was noted in the sigmoid colon; however, the fistula site was thickened with a narrowed lumen. Intraoperative vaginoscopy revealed a rent in the left lateral aspect of the vaginal vault. The urinary bladder was filled with betadine, which leaked intraperitoneally through the vesical fistula. Both fistula openings were closed using interrupted Prolene 2 - 0 sutures. Sigmoidectomy was performed laparoscopically after firing EndoGIA60G stapler at the mid - rectum. A trans - anal stapler colorectal anastomosis was performed using an EEA29 device. Diversion loop ileostomy performed in RIF. The surgery went uneventful, and the patient tolerated the procedure well. Patient started orally and ambulated on day 1. The Ileostomy was functioning on day 2 and the patient was discharged on POD 9.

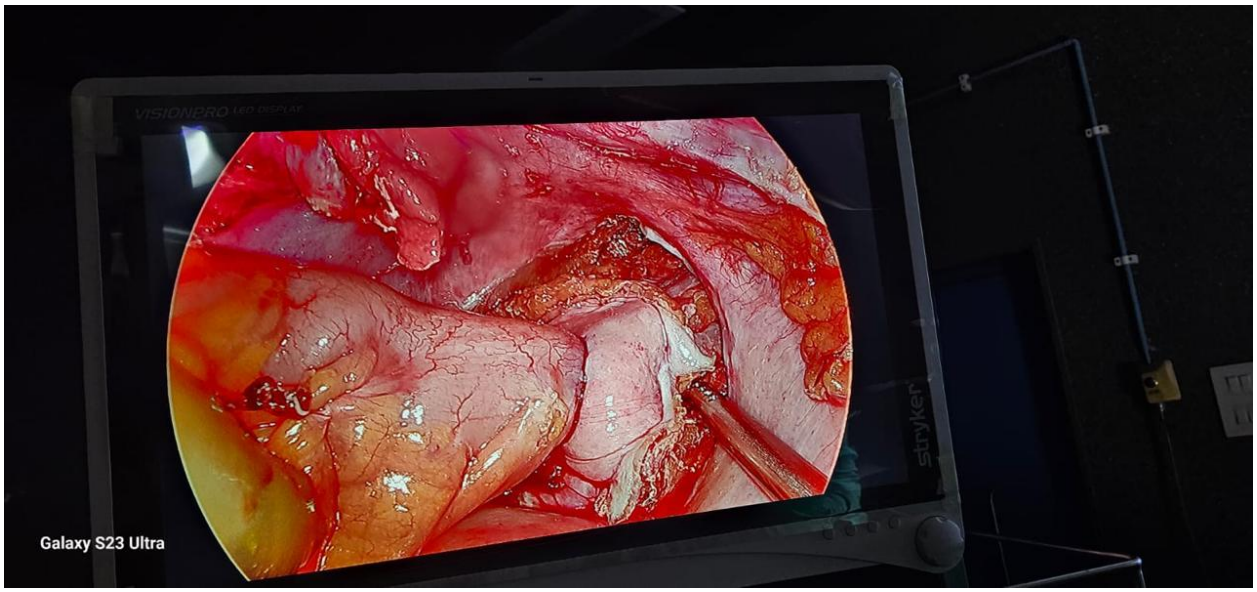

Figure 2: Trans - colorectal stapler anastomosis

3. Discussion

This study is significant as it demonstrates the successful application of hand - assisted laparoscopic techniques in managing complex fistulas, thereby offering a minimally invasive alternative with reduced morbidity compared to open surgery. The most common cause of Colo - vesical fistulas, which are rare side effects of diverticulitis, is diverticular illness. Usually, clinical symptoms like pneumaturia and fecaluria are required for diagnosis (2) followed by CECT to confirm it. Due to the lack of touch perception, Laparoscopic repair of Colo - vesical and Colo - vaginal fistulas is difficult due to the tough fibrotic tissue and is difficult to distinguish between fibrosis and malignancy at the site of fistula. It is very challenging to suture around the fistulous orifice as the sutures may cut through. On the other hand, in open surgeries even though dissection and suturing is easy, there is a higher risk of morbidity due to post - operative surgical site infection and incisional hernias because of the longer incision and wide traction. Hand assisted laparoscopic surgery amalgamates the advantages of laparoscopy and open surgery.

4. Conclusion

In conclusion, this case report illustrates that Colo - vesical and Colo - vaginal fistulas secondary to perforated sigmoid diverticulitis can be effectively managed using a hand - assisted laparoscopic approach. This technique successfully combines the benefits of minimally invasive surgery with the tactile advantages of open procedures, resulting in reduced morbidity and a favorable patient outcome.

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