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Small bowel occlusion due to giant perineal hernia: abdominal approach with plastic perineal reconstruction

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SUMMARY: **Small bowel occlusion due to giant perineal hernia: abdominal approach with plastic perineal reconstruction.**

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A perineal hernia is defined as a protrusion of peritoneal or extraperitoneal content through a pelvic floor defect. A 64-year-old woman with a bowel occlusions due to a giant postoperative perineal hernia was admitted to our hospital. We describe abdominal approach with plastic perineal reconstruction.

RIASSUNTO: **Occlusione del piccolo intestino da ernia perineale gigante: approccio addominale con plastica di ricostruzione perineale.**

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Un'ernia perineale è definita come una protrusione del contenuto peritoneale o extraperitoneale attraverso un difetto del pavimento pelvico. Una donna di 64 anni con un'occlusione del piccolo intestino da ernia perineale gigante è stata ricoverata presso il nostro ospedale. Descriviamo la plastica di ricostruzione perineale con approccio addominale.

KEY WORDS: Perineal hernia - Prostetic repair - Abdomino-pelvic resection - Complications.
Ernia perineale - Protesi di riparazione - Amputazione addomino-pelvica - Complicanze.

Introduction

A perineal hernia is defined as a protrusion of peritoneal or extraperitoneal content through a pelvic floor defect (1). This defect can be primary or secondary (2). Primary perineal hernias may be either congenital or acquired. Congenital hernia is a rare, but well known entity: the first case was reported by de Garangeot in 1743 (1). The acquired hernia was first recognized by Yeoman in 1939 (3). It can be characterized as primary, if caused by an increased intra-abdominal pressure; secondary hernia occurs following an abdominoperineal resection of the rectum or pelvic exenteration as a rare complication. The repair of pelvic floor defects involves the mobilization and repositioning of the hernia content and the closure of the defect. To date there are a couple of techniques, equally successful, used to repair the secondary type of hernia: a peritoneal, abdominal (open and laparoscopic) approach, or the combined abdominoperineal one using omentoplasty, synthetic mesh, or myocutaneous tissue (3-4). In the past abdominoperineal resection was the most popular surgical procedure, and perineal hernia was a very common complication with a prevalence up to 7% (5). Recent prevalence study showed a rate of postoperative perineal hernia ranging from 0.2-0.62% (5). Today a surgical cure is possible in patients with locally advanced primary or recurrent rectal cancer with an extended resection such as pelvic exenteration and sacral resection. Although these techniques offers a survival benefit, the associated incidence of postoperative complications, such as perineal hernia, will constantly increase.

We present a case report of a 64-year-old woman submitted to pelvic surgery, with a bowel occlusions due to a giant postoperative perineal hernia.

Case report

A 64 years old female was admitted to our colon-rectal department for bowel occlusions. The woman was already a patient in our Foundation IRCCS, National Institute of Tumours of Milan in Italy,

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Fig. 1 - Clinical exploration:perineal hernia.

as she underwent in 1988 an intervention of hysteroannessiectomy for an adenocarcinoma of the uterus, followed by radiotherapy and brachytherapy for vaginal cupola recurrences associated with a condylomatous lesion of the perianal area (Bowen's syndrome) in 1996. In August 2004 she underwent a endoanal exeresis for spinocellular carcinoma of the rectum. Moreover, in February 2005 she undertook another intervention for an anterior resection of the rectum because of spinocellular carcinoma recurrence. Additionally, in January 2010 she underwent a abdominoperineal resection procedure for recurrence of spinocellular tumor of the rectum. Six months later, the patient complained of perineal swelling with occasional pain in a sitting down and heaviness in a standing up position, associated with a bulge in perineum. A physical examination of the patient in a standing position identified a palpable mass of an hernia measuring 10cm x 5cm x 7cm associated with bowel sounds and peristalsis.

Performing a Valsalva manoeuvre it was noticed that the mass increased in volume, and it reduced when the patient was asked to lay in gynaecological position (Fig. 1). In that particular position the patient reported that the stool seemed to occasionally stop passing through his colostomy. To further investigate the origin of these discomforts, abdominal X-rays and Computed Tomography (CT) were performed confirming a giant perineal hernia, containing a segment of small bowel.

The patient has been submitted on September 2010 to a combined laparotomic abdominal and perineal approach. The hernia sack was resected. A small bowel obstruction was also identified, and a combined abdominoperineal lysis of adhesion was performed (Fig. 2).

The perineal hernia was closed with interrupted non-absorbable sutures. Moreover, a 10 cm resection of small bowel was performed due to casual tearings during dissection. An intervention using a polypropylene microfibre sheet Surgimesh®XB was preferred. The mesh is then sutured with interrupted polypropylene sutures placed at the top of the pelvis, attaching it to the parietal peritoneum previously prepared with accurate dissection. Final result resembled to wicker basket (Fig. 3).

Additionally, a plastic remodelling of the perineal skin was necessary since the surrounding tissues was weakened by the excessive size of the hernia (Fig. 4). In details, one abdominal drainage was introduced near the mesh and into the pelvis to avoid a seroma. The operative time was 102 minutes, the estimated blood loss was 30 gram, and no intraoperative complications occurred.

Post-operative course was uneventful, and the patient was discharged on the 5th day.

At a 12-month follow-up, a physical examination and CT scan revealed no evidence of hernia recurrence.

Discussion

In the past abdominoperineal resection was the most popular surgical procedure, and perineal hernia was a very

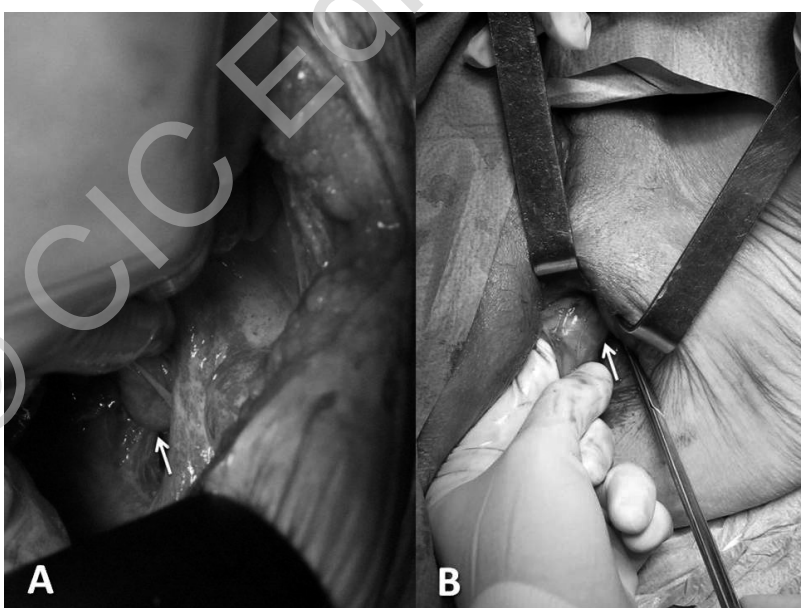

Fig. 2 - A: abdominal lysis of adherences. B: perineal lysis of adherences. White arrows identify the tract of small bowel obstruction.

Fig. 3 - Surgimesh®XB placed at the top of the pelvis.

common complication with a prevalence up to 7% (5).

Perineal hernias as reported in the literature, usually occured in patients who underwent abdominoperineal resection, radiation, and chemotherapy for cancer, and in patient who had a proctocolectomy for inflammatory bowel disease (6). Colon cancer proliferation and spreading has been extensively investigated so that the concept of a demolitive intervention is no longer necessary. Rather a sphincter-saving resection for all rectal carcinomas is today the gold standard (7).

Moreover the contribution of target therapy has provided new opportunities for treatment in locally recurrent rectal cancer. Today is possible a surgical cure in patients with locally advanced primary or recurrent rectal cancer with an extended resection such as pelvic exenteration and sacral resection. Due to the growing tendency to improve survival in pelvic cancer treatment, the impact of the postoperative complications is greater than before (8). Therefore there will be a substantial increase of the rate of postoperative perineal hernia.

Literature reports several approaches and techniques for perineal hernia repair but conclusive guidelines of treatment are not available so far. This circumstance is most likely due to the fact that a very small number of patients actually undergo an operation for perineal hernia. To date, various techniques have been described including transperineal, transabdominal, combined abdominoperineal approach and recently laparoscopic repair (9).

In details, the abdominal approach doesn't have more advantages than laparoscopic intervention, but provides a much better exposure of the dissecting sac facilitating the visualization of small bowels (10). Of equal importance, an abdominal intervention provides a better access for mesh positioning than the limited opening obtained with the transperineal option (11). Over the other interventions, laparoscopic approach has the advantage of a quicker recovery time as well as recovery of bowel function, and decreased immunological stress and trauma (8). However, the main disadvantage of laparoscopic procedure is the limited exposure of the perineum, making any mobilization of small bowel adherences and repairing injured viscera or vessels harder to perform. Generally, the defect in the muscles of the pelvic diaphragm may be closed either with

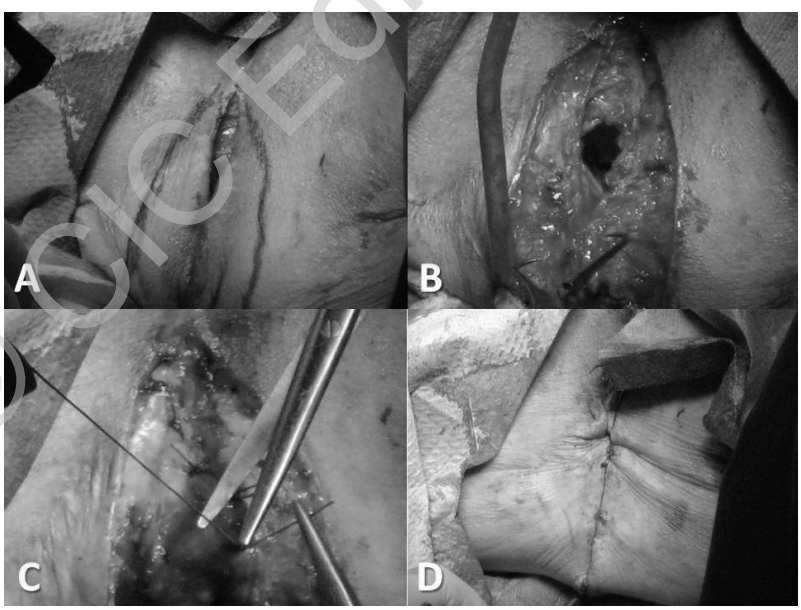

Fig. 4 - Plastic remodelling of the perineal skin.

direct suturing or by using autogenous tissues or with or without a synthetic mesh. In our case, we decided to use a laparotomic combined abdominoperineal approach because of the presence of bowel occlusion due to previous surgery. Today it's not possible to recommend laparoscopic adhesiolysis as an alternative to the laparotomic approach for small bowel obstructions (9). However, using abdominal approach we had a better access to dissect and remove the hernial sac, to mobilize the small bowel and finally to position the mesh. In our experience using a dual mesh consisting of monofilament polypropylene and ePTFE Bard®Composix® mesh to treat ventral hernia (11) is preferred. In this case a polypropylene microfibre sheet Surgimesh®XB was utilized. It was fixed on the top of the pelvis to avoid the recurrence of hernia. Using perineal approach we remodelled the extra tissue with plastic surgery.

Overall, for this case, a combined abdominal and perineal approach was preferred due to pelvic tenacious adherences of the small bowel and why it could offer a better visualization of the sac contents and a more precise surgical control of bowel or vascular damage.

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