Laparoscopic Assisted Abdomino-perineal Excision of Rectum

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Introduction

Abdomino-perineal excision of the rectum is standard procedure for the carcinoma of the lower third of rectum. It is now possible to perform the abdominal part of the procedure using laparoscopic techniques[1,2] thus avoiding a laparotomy and its attendant morbidity. Perineal part of the operation remains the same. It is proposed to call this procedure as Perineal Excision of the Rectum.

Case Report

A 55 years old female presented to surgical unit TV of Civil Hospital Karachi with a 3 months history of passing blood and mucous per rectum. Abdominal examination was unremarkable, however, rectal examination revealed an ulcerated lesion in the lower third of the rectum. There was no fixation to the surrounding tissues. Sigmoidoscopic examination was consistent with a malignant ulcer at 5 cm. Histology of the biopsies taken from the lesion confirmed it to be a moderately differentiated adenocarcinoma of the rectum. A barium enema examination was done which was unremarkable and there was no evidence of hepatic metastasis on ultrasonography. It was decided to attempt a laparoscopic abdomino-perineal excision of the rectum. Preoperative bowel preparation in the form of purgation and perioperative antibiotic prophylaxis was carried out. Under general anaesthesia the patient was placed in the Lloyd Davies position with a sand bag under the sacrum. The patient was catheterized, but the purse string was not placed at this stage. The surgeon stood on the right side of the patient with assistant on the left, along with the TV monitor. Pneumoperitoneum was induced and ports inserted as shown in Figure.

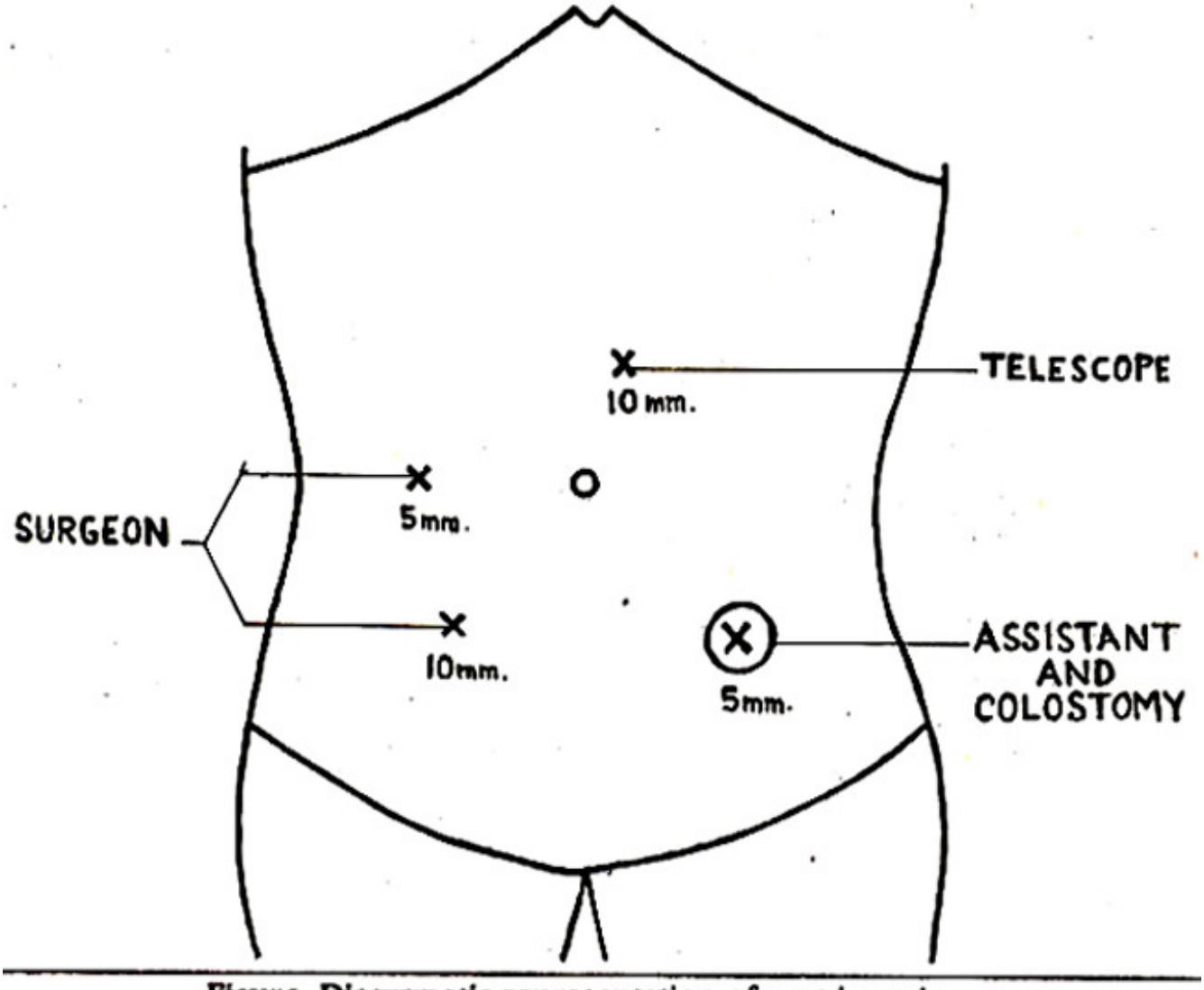

Figure. Diagramatic representation of port insertion.

An initial exploratory laparoscopy was carried out to exclude metastatic deposits. Mobilization of the left colon was achieved by retraction of the pelvic colon and division of congenital adhesions. After identifying the left ureter, the peritoneum was divided and the inferior mesenteric pedicle was isolated, distal to the left colic branch. This was cleared off the fat, clipped and divided. The pelvic peritoneum was incised on either side of the rectum. These incisions were joined anteriorly. At this stage a plastic rod 1.5x45 cms was inserted per rectum for manipulating the rectum to the desired position. Posteriorly the mesorectum was freed from the presacral fascia. Anteriorly the fascia of Denonvilliers' was incised and blunt dissection was carried downwards and laterally, isolating and dividing the lateral ligaments. The distal limit of dissection was the levator ani. The perineal dissection was carried out in the conventional way. The colon was pulled down into the perineum and was resected: A purse string was applied to the proximal colon and this was grasped by a forceps passed from the LIP port and exterorized. This became the end colostomy. The pelvic peritoneum was closed from above and the wound closed over a drain. The patient was taking liquids after 48 hours and was mobilized thereafter. By the fourth day patient was freely mobile. Colostomy was active by the third day. The main post-operative complaint was of perineal and low back pain. Abdominal pain was not a significant feature. The patient was discharged on the sixth post-operative day on her request. She was reviewed on the tenth post-operative day and perineal sutures were removed. She has been on regular follow-up for the last one year and was free from complications.

Discussion

This procedure was performed with relative ease. The two technical problems encountered were retraction of rectum and pooling of blood which were overcome by passing a tube per rectum for retraction which was found to be extremely useful and a 2 cm wide ribbon gauze for mopping up the collected blood inserted through the LIP port. One area of apprehension is ligation and division of inferior mesenteric pedicle. We used clips to achieve this, alternatively Endo GIA Stapling (auto suture) device may be used which staples and cuts at the same time. Similarly colon may be Eesected with Endo GIA, but this will considerably add to the cost of the operation. The pelvic dissection of rectum can be performed laparoscopically up to the pelvic floor, but needs to be simplified further by improvement in instrumentation. If the rectum in the lower region of a deep pelvis cannot be mobilised from above as far as the pelvic floor, mobilization of the rectum may be completed from the perineal side using a posterior approach[3-5] by incising sacral Waldeyer's fascia and dividing tissues around the end canal and lower rectum. Only two cases of laparoscopic abdomino-perineal excision of rectum[1,2] have been reported. The other laparoscopically performed colonic procedures described in the literature are total abdominal colectomy[6], right hemicolectomy[7] and reversal of Hartman's procedure[8]. Laparoscopic colectomy for adenocarcinoma of colon is controversial due to the fear of incomplete nodal clearance, however, this issue will become clearer as most cases are followed-up.

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