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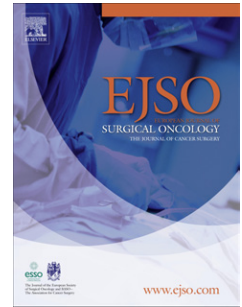
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Natural orifice total mesorectal excision using transanal port and laparoscopic assistance

Jean-Jacques TUECH, valérie BRIDOUX, Babak KIANIFARD, Lilian SCHWARZ, Basile TSILIVIDIS, Emmanuel HUET, Francis MICHOT

Abstract : Natural Orifice Transluminal Endoscopic Surgery (NOTES) is an emerging concept which has been recently applied to the field of rectal excision. The authors describe a case of total mesorectal excision using a transanal port and laparoscopic assistance. We described a procedure performed in a 45-year-old for a rectal adenocarcinoma (1cm wide, T1sm3) 3cm above the dentate line. The procedure is described in the text and in a didactic video.

Background : Natural Orifice Transluminal Endoscopic Surgery (NOTES) is an emerging concept which has been recently applied to the field of rectal excision. The authors describe a case of total mesorectal excision using a transanal port and laparoscopic assistance.

Methods: A 45-year-old woman (BMI: 20kg/m²) underwent surgery for a rectal adenocarcinoma (1cm wide, T1sm3) 3cm above the dentate line. A Lone Star retractor (TM) facilitated a transanal mucosectomy and a full thickness circumferential rectal resection commencing above the dentate line. Care was taken to avoiding injury to the internal anal sphincter, and the rectum was then closed with a purse string suture.

An endorec® Trocar (Aspide France) was inserted transanally and sutured to the perineal skin. This trocar consists of a rigid port with an outer diameter of 40mm, 4 airtight access channels (three 5mm and one 10mm) and an air inlet tube, through which the pelvic cavity was insufflated with CO₂ to a pressure of 10mmHg. This port allowed triangulation and the use of ordinary laparoscopic instruments. The dissection was extended to achieve circumferential rectal mobilization: the rectovaginal plane was dissected carefully, preserving the anterior mesorectal plane and the posterior vaginal wall, the posterior mesorectal fascia was then identified and the posterior dissection extended to the level of the sacral promontory in the avascular plane, the lateral attachments of the rectum were then divided. Finally, the rectovaginal peritoneal reflection was identified and perforated to enter the peritoneal cavity. (figure 1, video 1).

A second endorec® Trocar was positioned in the proposed ileostomy site and the peritoneal attachments of the rectosigmoid divided. The left colon was fully mobilized including the splenic flexure and the inferior mesenteric artery divided in the standard fashion.

The inspection of the pelvic wall shows it to be completely intact with the hypogastric nerves unmolested. The rectosigmoid was then exteriorized transanally, the sigmoid colon transected and a lateroterminal handsewn anastomosis fashioned. A suction drain was placed in the pelvis and a loop ileostomy fashioned.

Results: the time of procedure was 5 hours. The resected specimen was 20 cm in length. The mesorectal excision was complete and intact (figure 2, video2). Final pathology demonstrated pT1sm3N0 (of 15 sampled lymph nodes)

Conclusion: NOTES rectal resection is feasible; more data will be required on the safety and effectiveness of this technique before conclusions can be reached (ie : indications and contraindications need to be clarified)

Keywords: rectal cancer, transanal, Natural Orifice Transluminal Endoscopic Surgery, SILS, endorec,

The video has been presented at the ESSO 2010 Congress in Bordeaux, France and won the Award for the best video (silver) presented during the Congress.

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