

Abstract

Objective: To demonstrate the use of a single-stapler technique during rectosigmoid resection in women with deep infiltrating endometriosis (DIE).

Design: A step-by-step video demonstration of rectosigmoid resection and end-to-end anastomosis using two circularly placed sutures and one circular stapler.

Setting: Institute for the Care of Mother and Child, Prague, Czech Republic.

Patient(s): A 39-year-old woman presented with primary sterility and deep infiltrating endometriosis, and an EZIAN score of A2,B2,C3. A nodule was located 9 cm from the anus and was 38 × 9 mm in size. This included an intramural fibroma of 6 cm and a left-sided ovarian endometriotic cyst of 6 cm. Her pain on the visual analogue scale were dysmenorea 6, dyspareunia 5-6, dyschezie 7, dysuria 0, and acyclic pain 5.

Interventions: The primary objective was to replace the linear-stapler resection with two simple, strictly circularly placed sutures, to cut the intestinal wall between them, and to form the end-to-end anastomosis with a circular stapler. The one-stapler technique consisted of the following steps: intestinal wall cleansing as in the limited segmental resection; placement of one strictly circular suture just below the DIE nodule, without fixation; placement of the first circular suture just below the DIE nodule, ideally with at least three full-thickness "bites" of the intestinal wall; placement of the second circular stitch approximately 2 cm below the first one in a similar manner (three full-thickness "bites"); interruption of the intestinal wall with a harmonic scalpel; end-to-end intestinal anastomosis with a circular stapler; and airtightness test of the anastomosis. This results in only one incision line and therefore a lower risk of leakage. Intestinal resection time was on average 10 minutes longer compared to that for the linear stapler technique. So far, we have successfully performed the procedure in 25 women. Perioperative leakage was observed in two of these 25 patients in the classical procedure group and in none of the 25 patients in the group with the one-stapler technique. There were no differences in C-reactive protein (CRP) on third and fifth postoperative days or in other complications such as bleeding and pyrexia). The cost of procedure is lowered by the decrease in the number of staplers from 3 to 1. The patients' postoperative follow-up was uneventful, and they were discharged from the hospital at the same time as the women in whom the classical stapler technique was performed.

Main outcome measures(s): The primary outcome was the development of a new surgical approach to resection rectosigmoid endometriotic nodules that would decrease the number of incision lines on the intestine. The secondary outcome measures were peri- and postoperative complications (i.e., bleeding, intestinal leakage, postoperative infection, CRP), length of the surgery and hospitalization, and cost of the procedure.

Conclusion: Multiple incision lines following resection of the rectosigmoid colon and end-to-end anastomosis are risk factors for postoperative intestinal leakage. Therefore, a single incision line formed with two circular sutures, and one circular stapler may reduce the risk of postoperative complications and also financial expenses of the procedure. We believe that this method is suitable and easiest for nodules located less than 6 cm from the anal verge because of possible complications with angulation of linear stapler.