Postoperative digestive function after radical versus conservative surgical philosophy for deep endometriosis infiltrating the rectum

Horace Roman, M.D., Ph.D.,[a,b] Maud Vassilieff, M.D.,[a] Jean Jacques Tuech, M.D., Ph.D.,[c] Emmanuel Huet, M.D.,[c] Guillaume Savoye, M.D., Ph.D.,[d] Loïc Marpeau, M.D.,[a] and Lucian Puscasiu, M.D., Ph.D.[e]

[a] Department of Gynecology and Obstetrics, [b] Research Group EA 4308, [c] Department of Digestive Surgery, and [d] Department of Gastroenterology, Rouen University Hospital, Rouen, France; and [e] Department of Gynecology and Obstetrics, University Hospital, Targu Mures, Romania

Objective: To compare delayed digestive outcomes in women managed by two different surgical philosophies: a radical approach mainly related to colorectal resection, and a conservative approach involving rectal shaving and rectal nodule excision.
Design: "Before and after" comparative retrospective study.
Setting: University tertiary referral center.
Patient(s): Seventy-five patients managed by surgery for deep endometriosis infiltrating the rectum.
Intervention(s): Twenty-four women were managed during a period when surgeons pursued a radical philosophy toward treatment, and 51 women were managed during a period when a conservative philosophy was adopted.
Main Outcomes Measure(s): Standardized gastrointestinal questionnaires: the Gastrointestinal Quality of Life Index, the Knowles-Eccersley-Scott Symptom Questionnaire, the Bristol Stool Score, and the Fecal Incontinence Quality of Life Score.
Result(s): Preoperative patient characteristics, rectal nodule features, and associated localizations of the disease were comparable between the two groups. During the radical period, colorectal resection was carried out in 67% of patients, whereas during the second period only 20% of women underwent colorectal resection. Women managed according to the conservative philosophy had significantly improved results on the Knowles-Eccersley-Scott Symptom Questionnaire, Gastrointestinal Quality of Life Index, and depression/self-perception Fecal Incontinence Quality of Life Score, and significantly improved values for various items related to postoperative constipation: unsuccessful evacuatory attempts, feeling incomplete evacuation, abdominal pain, time taken to evacuate, difficulty evacuating causing a painful effort, and stool consistency.
Conclusion(s): It seems that reducing the rate of colorectal resection leads to better functional outcomes in women presenting with rectal endometriosis, lending support to the conservative surgical philosophy over mandatory colorectal resection. (Fertil Steril® 2013;99:1695–704. ©2013 by American Society for Reproductive Medicine.)
Key Words: Rectal endometriosis, colorectal resection, shaving, excision

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Surgical management of colorectal endometriosis has increasingly become a topic of interest in gynecologic surgery, leading to much debate. Studies show that two surgical philosophies or approaches are usually used: the radical philosophy mainly based on colorectal resection, and the conservative philosophy or symptom-guided approach prioritizing conservation of the rectum (1). The latter may be performed without opening the rectum (shaving) or by removing the nodule along with surrounding rectal wall (full-thickness or disc excision). Because of the poverty of comparative studies (2, 3), it should be emphasized that present available data are provided by retrospective series reported by surgeons who generally

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Reprint requests: Horace Roman, M.D., Ph.D., Department of Gynecology and Obstetrics, Rouen University Hospital, 1 rue de Germont, 76031 Rouen, France (E-mail: horace.roman@gmail.com).

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perform only one technique (4–8). In series in which patients are managed by one surgical procedure, it can be unclear whether only patients having benefited from this procedure are included, or whether on a routine basis surgeons only performed this procedure (9). Consequently, recommendations concerning surgical management of colorectal endometriosis are based on little evidence and tend to reflect the personal convictions and experience of those experts editing the guidelines.

The aim of our retrospective "before and after" study was to compare delayed digestive outcomes in women managed for rectal endometriosis during two consecutive periods of time, during which the surgical philosophies or approaches were respectively radical and conservative.

MATERIALS AND METHODS

Women enrolled in the study were managed for deep endometriosis infiltrating the rectum in the Department of Gynecology and Obstetrics, Rouen University Hospital, France from January 2005 to January 2010. Inclusion criteria were deep endometriosis revealed by clinical examination, MRI, and/or endorectal ultrasound and intraoperatively confirmed; infiltration of the rectal muscular, submucosal, or mucosal layer; rectal involvement up to 15 cm above the anus; and postoperative follow-up longer than 12 months. For this reason, patients managed for sigmoid colon endometriosis and those presenting with deep endometriosis involving only rectal serosa and requiring superficial rectal shaving were excluded.

Patients referred to our tertiary referral center had usually benefited from two preoperative visits. They were preoperatively examined by an experienced gynecologist, and detailed preoperative questionnaires were used to complete patient symptom history. Patients underwent preoperative assessment of deep endometriosis, including clinical examination, MRI, endorectal ultrasound, and later computed tomography–based virtual colonoscopy performed by only experienced operators. The diagnosis of rectal endometriosis was affirmed when first MRI revealed a deep endometriosis nodule accompanied by an obvious increase, on contact, in rectal wall thickness (Supplemental Fig. 1, available online), and second when endorectal ultrasound revealed a deep endometriosis nodule involving at least the muscular layer of the rectum (Supplemental Fig. 2). Cases with uncertain MRI assessment of rectal wall thickness but in which endorectal ultrasound revealed obvious infiltration of the rectal wall were also considered as rectal endometriosis. Since 2009 preoperative assessment using computed tomography–based virtual colonoscopy has been introduced to estimate degrees of rectal stenosis and to check multiple digestive localizations (Supplemental Fig. 3) (10). Those patients managed for deep endometriosis, with intraoperative appearance of rectal involvement but with negative results from preoperative MRI and endorectal ultrasound, were not included in this series.

The principles and goals of the surgical approach were discussed before surgery, and information was given about main postoperative complications. Preoperative therapy using GnRH analogs and add-back therapy was administered for 1–3 months, to decrease preoperative bleeding and facilitate dissection. Therapy was maintained for a short postoperative period, to avoid immediate postoperative menstrual blood reflux on the operative sites, which are saturated in growth factors and mediators during healing (11). An experienced senior gynecologic surgeon performed the surgical procedures. Digestive surgeons with a sound background in colorectal surgery performed colorectal resections and rectal nodule full-thickness excision, whereas rectal shaving was usually only carried out by the gynecologic surgeon. The choice between laparotomy or laparoscopic route was decided in each case. Postoperative treatment by GnRH analogs and add-back therapy was systematically prescribed, followed by continuous contraceptive pill intake in women not intending to conceive. Two postoperative visits were systematically scheduled at 2 and 12 months, and supplementary visits were added for women who presented unfavorable outcomes. The surgeon kept contact with his patients at 2-yearly follow-up visits or by e-mail exchange with women living far from the hospital. In a majority of cases the surgeon was involved in care during pregnancy and in assisted reproductive techniques (ART) management when required, and so most likely decreasing risk of patient postoperative loss from follow-up.

Before November 2007 we mainly performed colorectal segmental resection according to the radical approach. This choice was justified by a desire to provide microscopically complete removal of digestive nodules, expected to ensure a decrease in the risk of rectal recurrences. During this period, 8 patients out of 25 (32%) did not benefit from this radical procedure, as they specifically refused colorectal resection and requested nodule removal by shaving or full-thickness disc excision. The colorectal segmental resection procedure used was similar to that described in the literature by other teams and was performed either by open or laparoscopic route. Colorectal anastomosis was performed using a single-use circular transanal end-to-end stapler (PCEA 28 or 31 device) (5, 12). In patients managed in 2005 digestive procedures were performed by laparotomy.

November 2007 marked a change in our surgical preference and general convictions concerning the disease. From this date onward, we considered that although with nodule excision the removal of microscopic rectal implants might be microscopically incomplete (13, 14), a thorough relief of symptoms could be obtained by the surgical procedure associated with prolonged postoperative amenorrhea (15). Moreover, we thought that colorectal segmental resection was an overly complex procedure followed in some cases by unpleasant functional digestive symptoms in young patients (16). We therefore recommended to our patients, instead of colorectal resection, the performing of rectal nodule excision associated with systematic postoperative amenorrhea by GnRH analogs, followed by long-term continuous pill intake. We reserved colorectal resection first for cases in which excision was impossible, such as when there were large or circumferential nodules requiring extensive opening of the rectum and when suturing would have obstructed the rectum, and second for women for