

## Surgery for rectal endometriosis: the technique or the indication, that is the question



Obviously, the skill of the surgeon is relevant to the final outcome, but even the most talented surgeon should think before recommending surgery, “Why do I do what I do?”

—Garcia-Velasco JA, Arici A, Fertil Steril 2004;81:1206

Bafort et al. report the results of a retrospective study conducted on 232 women who underwent surgery for endometriosis that included excisional procedures on the rectal ampulla (1). This anatomic clarification is important, because it excludes the lesions infiltrating the rectosigmoid junction, i.e., those that most frequently cause subocclusive symptoms.

Generally, endometriosis infiltrating the anterior rectal wall is part of a larger lesion involving the Douglas pouch and often infiltrating the posterior vaginal fornix. Indeed, almost one-half of the patients in Bafort et al.'s study underwent segmental vaginal resection. These lesions very rarely cause bowel lumen obstruction. Therefore, the decision to undertake elective excision of part of the rectal ampulla is dictated by other, non-life-threatening clinical conditions, such as intractable dysmenorrhea, severe deep dyspareunia, and catamenial dyschezia.

The primary study objective was to compare the incidence of postoperative complications in women undergoing rectal shaving or disk excision (conservative surgery group) and in those undergoing segmental rectal resection. Overall, 10% of patients (23/232) experienced Clavien-Dindo type 3 or 4 complications, including bowel leakage and rectovaginal fistula formation. This is consistent with the available evidence (2). Postoperative severe complications were more frequent in the rectal resection group than in the conservative surgery group. However, statistical significance vanished after correction for between-group differences in baseline clinical characteristics or when considering only subjects undergoing first-line surgery. However, given the limited number of patients included in the latter subgroup analysis ( $n = 108$ ), the 95% confidence interval of the odds ratio estimate was very large (0.77–51.43) and a type II error cannot be excluded.

More importantly, the frequency of Clavien-Dindo type 3 or 4 complications observed in patients undergoing repeated surgery was more than double (14%) that observed in patients undergoing first-line surgery (6%). This justifies the probably most important take-home message of this study, that is, candidates for complex pelvic surgery for deep endometriosis must be referred to centers of expertise, where adequately executed procedures should limit the risk of reoperative interventions for persistent lesions, with the associated increased likelihood of severe morbidity. This recommendation is also ethically relevant, because the diagnosis of rectal and vaginal

endometriosis at physical examination combined with ultrasonography and, in selected cases, magnetic resonance imaging is feasible and accurate (1, 2). Thus, these lesions should not be missed preoperatively.

Women undergoing conservative surgery or segmental resection experienced similar symptom and lesion recurrence rates, which were the secondary study outcomes.

Given the methodologic drawbacks inherent to the retrospective nature of their study, the authors used a propensity score model, an appreciable biometric approach aimed at limiting confounding. In fact, women who underwent segmental resection reported severe symptoms more frequently and had larger rectal nodules and higher endometriosis classification scores than women who underwent conservative surgery.

This suggests that the type of procedure performed might have been influenced by both preoperative clinical and intraoperative anatomic variables. In other words, if the type of surgery adopted in individual cases was not an unrestricted *a priori* choice, but was a somewhat obligatory approach dictated by more complex conditions, the demonstration of a difference in complication rate seems to lose part of its practical importance, because surgeons could have not behaved otherwise anyway. If this was the case, even sophisticated statistical techniques may be of limited help in disentangling the impact of different surgical techniques *per se*, that is, independently from baseline patient characteristics.

The vast majority of women underwent surgery for pain and infertility. More than two-thirds of participants were infertile, two-thirds complained of dyschezia, and about one-half complained of deep dyspareunia. More than one patient out of four experienced recurrence of pain symptoms. The pregnancy rate was 63% (26/41) in women who sought a natural conception, and 69% (70/102) in those who underwent assisted reproductive technologies after surgery. What would have been the reproductive performance of these latter women had they directly undergone in vitro fertilization (IVF)? It seems extremely difficult to discriminate between the specific fertility-enhancing effect of colorectal lesion removal and that of excision of all other pelvic lesions, both in women seeking a natural conception and in those undergoing IVF postoperatively. Moreover, the performance of successful rectal surgery could be considered as a general indicator of great technical capabilities. This, and not excision of rectal endometriosis *per se*, might explain the very high postoperative pregnancy rates observed by Bafort et al (1).

The debate on the best technique to excise rectal endometriosis is still ongoing (3), and tradeoffs between safety and long-term efficacy of different degrees of radicality are not fully clarified. More in general, in surgical studies great emphasis is given to technical details regarding the different procedures, and less to the quality of the evidence on which those procedures are indicated. This is unexpected, because colorectal surgery with opening of the bowel lumen is among the riskiest interventions that may be performed in women with endometriosis.

The authors correctly list some indisputable surgical indications, including bowel stenosis causing subocclusion,

presence of severe pain symptoms in women seeking a natural conception, inefficacy of or intolerance and contraindications to medical treatments, and patient preference for surgery instead of hormonal therapies. In all other clinical conditions, women must be allowed to understand the uncertainties regarding the benefits of rectal surgery, because they have the right to choose based on their priorities, not our opinions.

Unfortunately, most of the available data are derived from retrospective cohort studies. This impedes a precise estimate of the magnitude of the effect of the different techniques. Therefore, when only the potential harms are known, it is difficult to delineate a therapeutic balance to inform patient decisions. In particular, the incremental benefit of excising rectal lesions in addition to other endometriotic pelvic lesions in diverse clinical conditions is currently scarcely defined. In this regard, comparative effectiveness research should be conducted on patient populations selected on the basis of a specific main complaint. For example, to understand how beneficial rectal endometriosis excision is for deep dyspareunia, only participants with moderate to severe pain at intercourse as their main symptom should be selected. The same is true for other pain symptoms and infertility, because trying to assess multiple secondary outcomes on an unselected study population may lead to scarcely reliable results.

The importance of a sound methodologic approach to assess the purported benefits of radical excision of rectal endometriosis cannot be overlooked. Surgical indications must be based on robust evidence, especially when dealing with a benign chronic disease not endangering life and there being major differences in potential harms between treatment options (4). Knowing or not knowing if a complex procedure was justified by convincing data is very different, especially when severe postoperative complications eventually ensue.

On one hand, when endometriosis infiltrates the rectal ampulla below the rectosigmoid junction, bowel occlusion is exceedingly rare. On the other hand, suppressive hormonal treatments are successful in relieving pain in at least two-thirds of symptomatic women with rectal endometriosis (5), and IVF is an effective alternative to surgery in infertile women (4). In addition, the rate of postoperative complications observed in Bafort et al.'s series reflects the performance of a multidisciplinary group of very experienced and technically capable pelvic surgeons. The generalizability of their findings may be limited, and the outcomes in the hands of less talented surgeons could be substantially less favorable.

The extent of acceptance of additional potential severe morbidity associated with rectal surgery seems to be highly variable among individual women. This may be due in part to the self-selection of patients who choose a center of expertise based on the alignment of their personal preferences with the locally favored therapeutic approach. However, it may not be excluded that the type of information provided to women greatly influences their final choice. If this is true, the

completeness and correctness of the counseling process, including the uncertainties on the potential benefits of rectal surgery, is of utmost importance, because one out of ten patients undergoing resection will suffer a moderate to severe complication. The implications of postoperative morbidity seem to be different in cases of inadvertent versus deliberate elective opening of the bowel lumen. Moreover, based also on the results of Bafort et al.'s study, women undergoing repeated surgery must be made aware before surgery of the particularly increased risk of complications.

Bafort et al. (1) appropriately insist also on adequate information regarding the practical and psychologic consequences of a diverting ileostomy, which seems to be increasingly performed by some authoritative surgical groups, but that may not be easily accepted by young women with benign disease.

Finally, after 30 years, the time has probably come to contemplate whether the time-honored, but somewhat arbitrary, definition of deep endometriosis as lesions infiltrating  $\geq 5$  mm beneath the peritoneum should be abandoned. The criterion adopted by Bafort et al. to diagnose deep rectal endometriosis, i.e., infiltration of the muscularis layer, seems easily reproducible and more accurately reflects lesion pathogenesis (2).

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## REFERENCES

1. Bafort C, van Elst B, Neutens S, Meuleman C, Laenen A, d'Hooore A, et al. Outcome after surgery for deep endometriosis infiltrating the rectum. *Fertil Steril* 2020;113:1319–27.
2. Abrão MS, Petraglia F, Falcone T, Keckstein J, Osuga Y, Chapron C. Deep endometriosis infiltrating the recto-sigmoid: critical factors to consider before management. *Hum Reprod Update* 2015;21:329–39.
3. Donnez O, Roman H. Choosing the right surgical technique for deep endometriosis: shaving, disc excision, or bowel resection? *Fertil Steril* 2017;108:931–42.
4. Vercellini P, Viganò P, Frattaruolo MP, Borghi A, Somigliana E. Bowel surgery as a fertility-enhancing procedure in patients with colorectal endometriosis: methodological, pathogenic and ethical issues. *Hum Reprod* 2018;33:1205–11.
5. Vercellini P, Buggio L, Somigliana E. Role of medical therapy in the management of deep rectovaginal endometriosis. *Fertil Steril* 2017;108:913–30.