Enterocele as a Consequence of Laparoscopic Resection of Deeply Infiltrating Endometriosis

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Abstract

Laparoscopic excision of deeply infiltrating endometriosis in the cul-de-sac or the rectovaginal septum by means of electrosurgery or laser is performed frequently. Little is known about the long-term results or complications of this surgery. We suggest that enterocele could be a complication of the procedure. A patient developed a large enterocele 3 years after a laparoscopic excision of a deep endometriotic nodule with resection of the uterosacral ligaments. We question whether routine preventive measures should not be taken after excision of a deep endometriotic nodule from the rectovaginal septum.

Endometriosis can be a debilitating disease, especially when it deeply infiltrates the rectovaginal septum.[1–6] The treatment of choice is excision, during which large blocks of endometriotic tissue are resected, often including the rectal or vaginal wall.[7–13] The reported complications of this laparoscopic surgery include injury of the bladder, bowel, or ureter; perforation of the vagina; and severe hemorrhage.[14–17] Late complications have not yet been reported.

Case Report

A 27-year-old woman had secondary infertility for almost 1 year. She also complained of chronic hypogastric pain and moderate deep dyspareunia of 1 year's duration.

Three years earlier she had undergone a laparoscopy in our department during which the diagnoses of endometriosis (American Fertility Society stage 2) and varicosities on the left side of the uterus were made. During this laparoscopy, a deep endometriotic nodule, 15 mm wide and 10 mm deep, at the base of both uterosacral ligaments was excised with the carbon dioxide (CO_2) laser. It is important to mention that during this procedure both uterosacral ligaments were transected, thus creating a large defect extending up to the vaginal wall. The varicose veins were coagulated. The patient conceived 8 months later by homologous intrauterine insemination because of her husband's mild oligoasthenozoospermia. The pregnancy was uneventful, and at 38 weeks she spontaneously delivered a healthy boy weighing 3200 g.

On examination the woman appeared in good physical health. Abdominal palpation was normal and no specific tenderness could be found. Pelvic examination revealed a normal cervix. Induration of the

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rectovaginal septum was suspected on bimanual examination. Bulging of the posterior fornix or of the posterior vaginal wall was not seen, although it was not specifically looked for.

Given the patient's complaints, her history of endometriosis, and the clinical impression of an indurated rectovaginal septum, a recurrence of endometriosis was suspected and a repeat laparoscopy was performed.

Careful inspection of the pelvis revealed no endometriosis. Instead, a large enterocele of the cul-de-sac was seen. The peritoneum over the enterocele was vaporized superficially using the CO_2 laser after delimitation of the defect and identification of the ureters. Subsequently, a McCall suture was placed laparoscopically including both the remnants of the uterosacral ligaments and the vaginal wall.

Five weeks later the patient reported complete relief of symptoms. One year after the operation she had experienced no recurrence of symptoms.

Discussion

To our knowledge, based on a MEDLINE search of the literature published from 1976 to 1996, this is the first report describing an enterocele as a possible consequence of the resection of deeply infiltrating endometriosis. Deep endometriosis, especially deeply infiltrating endometriosis in the rectovaginal septum, is a well-known entity.[1–6] It is only recently, however, that we have had experience treating this condition laparoscopically by excision with electrosurgery or laser.[7–13] The long-term consequences of such intervention that creates large defects of the rectovaginal septum are unknown. It is possible that deepening of the cul-de-sac after excision of these large tissue blocks can lead to the formation of an enterocele, even in relatively young women. Transection of both uterosacral ligaments could be an important cofactor in the formation of the enterocele.

If this could be substantiated, it would be important to evaluate the long-term effects of laparoscopic uterine nerve ablation procedures, so often advocated for dysmenorrhea or dyspareunia.[18–20] We also cannot exclude the possible role of pregnancy and delivery in this patient's pathology.

The McCall culdoplasty was initially described as a means of treating or preventing the formation of an enterocele after a vaginal or abdominal hysterectomy.[21–23] A laparoscopic procedure was described during which the uterosacral ligaments are brought together and fixed to the posterior vaginal wall.[24, 25] The disappearance of pain in our patient even 1 year after surgery suggests the effectiveness of this procedure.

This case report raises the issue of the need to perform some prophylactic suturing in every patient after resection of deep endometriotic nodules, especially after transection of the uterosacral ligaments. More follow-up data in a group of selected patients will be necessary to evaluate the frequency and severity of this pathology. Our aims are to draw attention to the possibility of this iatrogenic pathology, to increase awareness of it, and to open the discussion of a prophylactic McCall culdoplasty after the resection of a deep nodule.

References

1. Koninckx PR, Martin DC: Deep endometriosis: A consequence of infiltration or retraction or possibly adenomyosis externa? Fertil Steril 59:924–928, 1992
2. Nezhat F, Allen CJ, Nezhat C, et al: Nonvisualized endometriosis at laparoscopy. Int J Fertil 36:340–343, 1991
3. Ripps BA, Martin DC: Focal pelvic tenderness, pelvic pain and dysmenorrhea in endometriosis. J Reprod Med 36:470–472, 1991
4. Koninckx PR, Meuleman C, Demeyere S, et al: Suggestive evidence that pelvic endometriosis is a progressive disease, whereas deeply infiltrating endometriosis is associated with pelvic pain. Fertil Steril 55:759–765, 1991
5. Cornillie FJ, Oosterlynck D, Lauweryns JM, et al: Deeply infiltrating pelvic endometriosis: Histology and clinical significance. Fertil Steril 53:978–983, 1990
6. Fedele L, Parazzini F, Bianchi S, et al: Stage and localization of pelvic endometriosis and pain. Fertil Steril 53;155–158, 1990
7. Redwine DB: Laparoscopic en bloc resection for treatment of the obliterated cul-de-sac in endometriosis. J Reprod Med 37:695–698, 1992
8. Sutton C: Operative laparoscopy. Curr Opin Obstet Gynecol 4:430–438, 1992
9. Reich H, McGlynn F, Salvat J: Laparoscopic treatment of cul-de-sac obliteration secondary to retrocervical deep fibrotic endometriosis. J Reprod Med 36:516–522, 1991

10. Martin DC: Laparoscopic and vaginal colpotomy for the excision of infiltrating cul-de-sac endometriosis. J Reprod Med 33:806–808, 1988

11. Sharpe DR, Redwine DB: Laparoscopic segmental resection of the sigmoid and rectosigmoid colon for endometriosis. Surg Laparosc Endosc 2:120–124, 1992

12. Nezhat C, Nezhat F, Pennington E: Laparoscopic treatment of infiltrative rectosigmoid colon and rectovaginal septum endometriosis by the technique of videolaparoscopy and the CO_2 laser. Br J Obstet Gynaecol 99:664–667, 1992

13. Koninckx PR, Martin D: Treatment of deeply infiltrating endometriosis. Curr Opin Obstet Gynecol 6:231–241, 1994

14. Neven P, Vandeursen H, Baert L, et al: Ureteric injury at laparoscopic surgery: The endoscopic management. Gynaecol Endosc 2:45–46, 1993

15. Hulka JF, Peterson HB, Phillips JM, et al: Operative laparoscopy. American Association of Gynecologic Laparoscopists' 1991 membership survey. J Reprod Med 38:569–571, 1993

16. Nezhat C, Nezhat FR: Safe laser endoscopic excision or vaporization of peritoneal endometriosis. Fertil Steril 51:149–151, 1989

17. Nordestgaard AG, Bodily KC, Osborne RW Jr, et al: Major vascular injuries during laparoscopic procedures. Am J Surg 169:543–545, 1995

18. Donnez J, Nisolle M: CO_2 laser laparoscopic surgery. Adhesiolysis, salpingostomy, laser uterine nerve ablation and tubal pregnancy. Baillieres Clin Obstet Gynaecol 3:525–543, 1989

19. Sutton CJ, Ewen SP, Whitelaw N, et al: Prospective, randomized, doubleblind, controlled trial of laser laparoscopy in the treatment of pelvic pain associated with minimal, mild and moderate endometriosis. Fertil Steril 62:696–700, 1994

20. Gurgan T, Urman B, Aksu T, et al: Laparoscopic CO_2 laser uterine nerve ablation for treatment of drug resistant primary dysmenorrhea. Fertil Steril 58:422–424, 1992

21. McCall ML: Posterior culdoplasty: Surgical correction of enterocele during vaginal hysterectomy. A preliminary report. Obstet Gynecol 10:595, 1957

22. Hirsch HA: Uterosacral ligament suspension of vaginal vault (McCall's culdoplasty). Eur J Obstet Gynecol Reprod Biol 32:13, 1989

23. Nichols DH: Surgery for pelvic floor disorders. Surg Clin North Am 71:927–946, 1991

24. Koninckx PR, Poppe W, Deprest J: Carbon dioxide laser for laparoscopic enterocele repair. J Am Assoc Gynecol Laparosc 2:181–185, 1995

25. Vancaillie TG, Butler DJ: Laparoscopic enterocele repair: Description of a new technique. Gynaecol Endosc 2:211–216, 1993