CASE REPORT

Transanal endoscopic microsurgery in the management of rectal wall endometriosis

Balazs Banky,¹ Mahsa Saleki,² Talvinder S Gill²¹Department of Surgery, St. Borbala Hospital, Tatabanya, Hungary²Department of Colorectal Surgery, University Hospital North Tees, Stockton on Tees, UK

Correspondence to Dr Balazs Banky, bankybalazs@gmail.com

Accepted 22 July 2016

SUMMARY

A 29-year-old woman with known history of endometriosis was referred to colorectal outpatient clinic from gynaecology with a history of intermittent rectal bleeding and no associated bowel symptoms. Flexible sigmoidoscopy in concordance with pelvic MRI revealed a 3×2×2 cm sessile lesion in the anterior rectal wall. The lesion was also palpable as a firm mass on digital rectal examination. From the gynaecological point of view no intra-abdominal exploration was required; the sole rectal wall lesion was removed with the minimally invasive surgical technique of transanal endoscopic microsurgery. Full thickness rectal wall excision sample was reported to be histologically complete and confirmed endometriosis. No recurrence was detected at endoscopic follow-up at 6 months. The patient remained symptom free. Therefore, we demonstrated a case of minimally invasive removal of a rectal wall large endometriosis nodule in a fertile woman with a complete, symptomatic, uneventful recovery.

BACKGROUND

Endometriosis is a common condition affecting an estimated 5–50% of women¹ symptomatically during the reproductive years; however, total prevalence including asymptomatic cases can be even higher. Bowel endometriosis, especially rectal involvement, is present at 3–37% of the cases.² Bowel endometriosis can be asymptomatic, but it can present in symptoms of altered bowel habit, tenesmus and intermittent rectal bleeding.^{2–3} A suspicion of bowel endometriosis can be proven by invasive diagnostic efforts (ie, colonoscopy and diagnostic laparoscopy^{3–5}) with a chance of histological proof, while imaging techniques including CT, T2-weighted MRI or endorectal ultrasound (US) are required to assess the extent of the disease.⁶

Management includes conservative, medical treatment and surgical intervention.³ Rectal involvement often requires high or low anterior resection depending on the level of involvement. Low rectal resection is associated with significant morbidity rates and even a potential stoma formation.^{7–9}

Although the symptoms of rectal endometriosis can be distressing, it is essentially a benign condition. Therefore, once an operative management plan is put in place, surgical technique chosen must be of minimal morbidity risk, that is, minimally invasive.

Transanal endoscopic microsurgery (TEMs) procedure may provide the best access and least invasiveness at the same time when low or middle rectal wall is exclusively affected by endometriosis.^{10–12}

CASE PRESENTATION

We report the case of a 29-year-old woman suffering from chronic pelvic pain and dyspareunia with a background of symptomatic endometriosis under conservative care of the gynaecologists. Investigation with pelvic US, MRI and gynaecological laparoscopy demonstrated a 3×2.8×2.8 cm mass in the rectovaginal septum. In frame of diagnostic laparoscopy, pelvic adhesions affecting the adnexa and the pouch of Douglas were divided. No resection was needed. After a course of conservative management of temporary low-dose oral contraceptives and pain killers she managed to become pregnant.

A year after delivery, she presented at our proctology outpatient clinic with a history of intermittent episodes of rectal bleeding. No weight loss, change in bowel habit or digestive abnormalities were reported.

INVESTIGATIONS

Abdominal examination was unremarkable; however, a tender nodule was palpable on bimanual examination in the mid-rectal wall.

Repeat MRI scans proved that the previous endometrioma itself had resolved, but in its place a small 3×2×2 cm nodule within the mid-anterior rectal wall appeared (figure 1). No other pelvic organs were affected, as well as no intraperitoneal spread of the lesion was reported.

Flexible sigmoidoscopy reported the same lesion as a flat, 2×2 cm sessile nodule affecting the rectal mucosa. No other distal colorectal bleeding source was identified. Histopathology of rectal biopsy reported normal large intestinal mucosa with lymphocytic aggregate, but definite features of endometriosis were not seen. As the vaginal wall was uninvolved, no gynaecological intervention was required.

DIFFERENTIAL DIAGNOSIS

Our patient with intermittent rectal bleeding underwent a routine coloproctological differential diagnostic course. Bleeding was not found to be associated with bowel opening, as well as it was entirely painless.

Per rectal examination and proctoscopy ruled out banal proctological diseases, like anal fissure or haemorrhoids.

The most common cause of fresh rectal bleeding in this age group apart from proctological diseases is inflammatory bowel disease (IBD), which more commonly presents with associated changes in bowel habits, weight loss as well abdominal pain.

CrossMark

To cite: Banky B, Saleki M, Gill TS. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-216154

Figure 1 MRI of the 3 cm anterior rectal wall nodule.

Normal inflammatory markers, as well as a normal flexible sigmoidoscopy ruled out the possibility of IBD.

Flexible sigmoidoscopy ruled out diverticular disease and also arteriovenous malformation.

An important differential in all cases of rectal bleeding is malignancy. Our patient had none of the red flag signs with no significant family history.

As the patient was known to be affected by endometriosis in gynaecological history, bowel endometriosis was one of the first thoughts in the background of intermittent rectal bleeding.

Flexible sigmoidoscopy and T2-weighted MRI were suitable to identify the single rectal wall nodule, rule out infiltration of surrounding organs and exclusion of intraperitoneal involvement.

TREATMENT

Given the patient's age and the location of the lesion in the mid-rectal wall, a TEMS procedure with full thickness disc excision of the rectal wall was deemed the best surgical management option with least treatment-related complication rate. (Gynaecologists agreed not to attempt medical treatment (ie, hormone therapies) considering the age of the patient and the bleeding behaviour of the nodule. Definitive removal of the nodule was suggested to be a low risk and definitive treatment option instead.) After detailed investigation and informed consent, patient underwent a TEMS procedure via an operating rectoscopic platform of TEO, Karl-Storz.

The lesion was well identified in the mid-rectum (figure 2A). A full thickness rectal wall excision was performed with 5 mm surgical margin (figure 2B). No surrounding organ was infiltrated; mesorectal fat tissue was left without endometriosis remnant (figure 2C). The rectal wall lesion was closed with running absorbable suture (figure 2D).

OUTCOME AND FOLLOW-UP

The patient had an uneventful recovery according to our 'enhanced recovery protocol'. She was discharged on the first postoperative day.

No recurrence of rectal bleeding, as well as no macroscopic local recurrence on rigid sigmoidoscopy examination at 2-week and 6-month reviews at the outpatient was noted. The patient was discharged back under the gynaecological long-term care.

Final histology confirmed rectal endometriosis without atypia.

The patient remained symptom free and she became pregnant again 1 year after the procedure.

DISCUSSION

This is the first reported case of TEMS management for ectopic rectal endometriosis. The idea of TEMS for low and mid-rectal

Figure 2 (A) Transanal endoscopic microsurgery picture of the rectal wall nodule (white arrow). (B) Diathermic excision of the rectal wall lesion with 5 mm margin. (C) Full thickness defect remnant of the rectal wall excision. (D) Closed defect of the rectal wall with running sutures.

endometriosis has been initiated almost two decades ago; however, the method has not been implemented in the gynaecological and colorectal surgical routine, so far.¹³

In benign non-invasive lesions, as well as in semimalignant cases (gastrointestinal stromal tumours, neuroendocrine tumours) TEMS provides a safe way of minimally invasive complete excision of the full thickness of the infraperitoneal rectal wall. This method helps in preserving sphincter function and serves as an alternative to the more complicated and high morbidity procedures such as low anterior resection or abdominoperineal rectal extirpation, preventing potentially associated serious complications.

Rectovaginal and rectal wall endometriosis is an uncommon, but a well-described entity within the group of deep endometriosis cases. Laparoscopy is often unavoidable in the diagnostic course; however, deep sitting, rectovaginal lesions may hide underneath the peritoneal reflection.

Deep endometriosis often involves bowel loops, rectal wall or even urinary tract organs, which requires a multidisciplinary treatment effort performed by gynaecologists, surgeons and urologists, each with advanced experience in laparoscopy. Depending on the involvement of the pelvic organs, complete removal of the lesions may require extensive resections with associated complication risks.^{14–17} Therefore, it is more than essential to adapt the minimally invasive current techniques to minimise invasiveness and tissue damages.

Our case presents a well investigated, purely rectal wall endometriosis lesion which gave the chance of an exclusive transanal approach to completely be removed.

Transanal minimally invasive techniques (TEMS or even transanal minimally invasive surgery) are probably the best choices in experienced surgical hands in cases with endometriosis nodes appearing infraperitoneally associated with the rectal wall.

Although laparoscopy is the gold standard investigation for diagnosing superficial endometriosis usually visualised as gunshot lesions, MRI is a more useful tool for assessing the severity of deep endometriosis and potential minimally invasive

access forms, including laparoscopy, transvaginal and transanal surgery may need to be involved in an effective, complex operative treatment.

Contributors MS participated in the operative procedure, follow-up of the patient, collected case history and wrote the draft version of the manuscript. TSG is the consultant in charge of the case, he was the operating surgeon, followed up the patient and corrected the manuscript. BB looked after the literature of the case, wrote the final version of the manuscript, edited the images and looked after the patient consent and follow-up.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Survey OC. Epidemiology of endometriosis. *ObGyn.net* 2011;1–8.
- 2 Ferrero S. Bowel endometriosis: recent insights and unsolved problems. *World J Gastrointest Surg* 2011;3:31.
- 3 Cohen J, Ballester M, Salleret L, et al. Finding the balance between surgery and Medically Assisted Reproduction in women with deep endometriosis. *Minerva Ginecol* 2016.
- 4 Sanchez Cifuentes A, Candel Arenas MF, Albarracin Marin-Blazquez A. Intestinal endometriosis. Our experience. *Rev Esp Enferm Dig* 2016;108.
- 5 Wilczynski M, Wiecka-Plusa M, Antosiak B, et al. [Rectovaginal endometriosis—analysis of 160 cases]. *Ginekol Pol* 2015;86:896–901.
- 6 Nisenblat V, Bossuyt PMM, Farquhar C, et al. Imaging modalities for the non-invasive diagnosis of endometriosis. *Cochrane Database Syst Rev* 2016;2: CD009591.
- 7 Akladios C, Messori P, Faller E, et al. Is ileostomy always necessary following rectal resection for deep infiltrating endometriosis? *J Minim Invasive Gynecol* 2015;22:103–9.
- 8 Sugishita H, Watanabe Y, Yamamoto Y, et al. Laparoscopically assisted low anterior resection for lower rectal endometriosis: usefulness of laparoscopic surgery. *Case Rep Gastroenterol* 2009;3:318–23.
- 9 Zanetti-Dallenbach R, Bartley J, Muller C, et al. Combined vaginal-laparoscopic-abdominal approach for the surgical treatment of rectovaginal endometriosis with bowel resection: a comparison of this new technique with various established approaches by laparoscopy and laparotomy. *Surg Endosc* 2008;22:995–1001.
- 10 Roman H, Abo C, Huet E, et al. Full-thickness disc excision in deep endometriotic nodules of the rectum: a prospective cohort. *Dis Colon Rectum* 2015;58:957–66.
- 11 Roman H, Abo C, Huet E, et al. Deep shaving and transanal disc excision in large endometriosis of mid and lower rectum: the Rouen technique. *Surg Endosc* 2016;30:2626–7.
- 12 Roman H, Tuech JJ. New disc excision procedure for low and mid rectal endometriosis nodules using combined transanal and laparoscopic approach. *Colorectal Dis* 2014;16:0253–6.
- 13 Kilgus M, Schob O, Largiadier F. Rectal endometriosis: transanal endoscopic microsurgery or laparoscopic resection? *Eur J Surg* 1998;164:231–2.
- 14 de Jong MJH, Mijatovic V, van Waesberghe JHTM, et al. Surgical outcome and long-term follow-up after segmental colorectal resection in women with a complete obstruction of the rectosigmoid due to endometriosis. *Dig Surg* 2009;26:50–5.
- 15 Lukovich P, Rigo J, Harsanyi L, et al. Management of bowel endometriosis based on 120 cases. *Magy Seb* 2015;68:197–203.
- 16 Soriano D, Bouaziz J, Elizur S, et al. Reproductive outcome is favorable after laparoscopic resection of bladder endometriosis. *J Minim Invasive Gynecol* 2016;23:781–6.
- 17 Abo C, Roman H, Bridoux V, et al. Management of deep infiltrating endometriosis by laparoscopic route with robotic assistance: 3-year experience. *J Gynecol Obstet Biol Reprod (Paris)* 2016; doi:10.1016/j.jgyn.2015.12.003

Learning points

- Deep endometriosis of the large bowel or rectum should be considered in young age female patients with intermittent rectal bleeding.
- Rectal wall endometriosis or rectovaginal endometriosis are common, potential appearances of deep infiltrating endometriosis of the pelvis.
- Transanal endoscopic microsurgery is a potential and suitable and safe way to approach, explore and remove deep infiltrating rectal wall endometriosis.

Copyright 2016 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow