CASE REPORT

Severe pelvic adhesions following attempted ultrasound-guided drainage of bilateral ovarian endometriomas

Timothy S. Garvey, Ralph R. Kazer and Magdy P. Milad

Division of Reproductive Endocrinology and Infertility, Department of Obstetrics and Gynecology, Northwestern University Medical School, 333 East Superior Street, Chicago, Illinois 60611, USA

1To whom correspondence should be addressed

A 38 year old woman was thought to have bilateral polycystic ovaries and an absence of pelvic or abdominal adhesions at diagnostic laparoscopy. Post-operative transvaginal ultrasound noted bilateral homogeneous hypoechoic masses with low-level echoes consistent with endometriomas. Transvaginal aspiration was unsuccessful due to the viscosity of the cyst contents. At second laparoscopy severe adhesions with complete cul-de-sac obliteration were noted. This case raises concern about pelvic adhesions following transvaginal drainage of ovarian endometriomas.

Key words: endometrioma/endometriosis/pelvic adhesions/ultrasound-guided drainage

Introduction

Endometriomas are commonly managed by laparoscopic drainage with or without cyst wall removal. However, there can be morbidity associated with surgical cystectomy. As a result some have advocated the use of ultrasound-guided drainage of endometriomas as an alternative to surgical excision (Aboulghar et al., 1991; Dicker et al., 1991). Performed in the office and using local anaesthesia, patients can return to normal activities immediately following the procedure. However there is a risk of infection, adhesions and recurrence. We present a case in which attempted transvaginal ultrasound-guided drainage of bilateral endometriomas was followed by severe pelvic adhesive disease.

Case report

A 38 year old woman with primary infertility presented for diagnostic laparoscopy after a hysterosalpingogram revealed occlusion at the mid-portion of the right tube. At laparoscopy the ovaries were thought to be smooth and polycystic, measuring 4 cm in diameter bilaterally. The Fallopian tubes were grossly normal with normal-appearing fimbriae bilaterally. Chromopertubation followed by tubal cannulation was performed. The posterior cul-de-sac contained a few tiny endometrial implants. There was no evidence of abdominal or pelvic adhesions (Figure 1). The surgeon elected to leave the small endometrial implants untreated. The post-operative course was unremarkable.

Two weeks post-operatively the patient underwent assessment by vaginal probe ultrasound, which demonstrated bilateral 4 cm hypo-echoic ovarian cysts with low level echoes consistent with endometriomas. Colour Doppler studies were not performed. Two days later, transvaginal ultrasound-guided cyst aspiration was attempted using a 17-gauge 33 cm needle but this procedure was only partially successful due to the viscous nature of the cyst contents. The patient was given oral antibiotics and had an unremarkable post-aspiration recovery without complaints of pain, fever or discomfort. Four weeks after the cyst aspiration, operative laparoscopy with bilateral cystectomy was performed.

At laparoscopy, the pelvis was found to contain extensive adhesive disease with complete obliteration of the posterior cul-de-sac (Figure 2). Both ovaries were densely adherent to the pelvic sidewall, uterus, and colon. The two endometriomas were identified and bilateral ovarian cystectomy with extensive adhesiolysis was performed without complication. Histopathological findings confirmed bilateral ovarian endometriomas. Her post-operative course was unremarkable.

Note added at proof

The patient conceived within six months of surgery and delivered at term.

Discussion

Endometriomas are frequently managed surgically since medical therapy is considered largely ineffective. However, surgical therapy has associated morbidity including bleeding, infection and post-operative adhesion formation (Monk et al., 1994). Less is known about the morbidity associated with the use of ultrasound-guided drainage for endometriomas. Muzii et al. (1995) reported on the laparoscopic findings in 13 patients that showed a recurrence following transvaginal ultrasound-guided aspiration of unilateral endometriomas (Muzii et al., 1995). Endometriosis and adhesion scores were compared to 42 patients with endometriomas who had not undergone previous transvaginal aspiration. While endometriosis scores were comparable between groups, those patients that underwent transvaginal aspiration had
Pelvic adhesions after drainage of bilateral ovarian endometriomas

Figure 1. Laparoscopic findings at the initial procedure were recorded as bilateral polycystic ovaries and an absence of pelvic adhesions.

Figure 2. Laparoscopic findings 4 weeks after transvaginal drainage of bilateral ovarian endometriomas. Note the de-novo adhesions with complete cul-de-sac obliteration.

significantly higher adhesion scores. It was thought that the tissue trauma associated with transvaginal drainage or the endometriotic material itself resulted in enhanced adhesion formation. Zanetta et al. (1995) followed 209 patients undergoing transvaginal or transabdominal ultrasound-guided endometrioma drainage, for either diagnosis, relief of symptoms, or therapeutic drainage (Zanetta et al., 1995). Patients experienced a 5.8% complication rate, most of which were transient problems (vaginal symptoms, pelvic pain) which resolved spontaneously. Three patients required surgery including one for an ovarian abscess, and two for peritoneal irritation from cyst contents. All 18 patients undergoing procedures with therapeutic intent experienced recurrence of their endometriomas. It was concluded that ultrasound-guided drainage of endometriomas was feasible but ineffective as therapy.

Giorlandino et al. (1993) followed 34 patients who underwent ultrasound-guided drainage of endometriomas (Giorlandino et al., 1993): 53% experienced recurrences unrelated to original cyst size, volume aspirated, and pre- or post-treatment with hormonal therapy. No post-procedure complications were reported. Dicker et al. (1991) performed transvaginal drainage of endometriomas in 41 patients who had experienced in-vitro fertilization (IVF) failures (Dicker et al., 1991). They subsequently achieved significantly higher rates of oocyte retrieval and clinical pregnancy with no discussions of complications or recurrence.

In the current case, de-novo adhesions were documented after attempted transvaginal aspiration of bilateral ovarian endometriomas. We believe that this occurred as a result of peritoneal inflammation from the endometrioma contents. Recently, very high serum CA 125 concentrations were associated with ovarian endometrioma rupture (Johansson et al., 1998). Elevated serum CA 125 concentrations were thought to result from peritoneal mesothelial cell irritation, which resolved following surgical treatment.

It is possible that the pelvic adhesions found at second laparoscopy resulted from an infectious event after the transvaginal drainage or the first laparoscopy. Following both procedures, the patient denied any history of febrile illness or abdominal discomfort. Additionally, she was given antibiotics at the time of her transvaginal drainage to further reduce the risks of infection. Finally, at second laparoscopy there was no evidence of infection or abscess formation, just severe adhesions at the transvaginal drainage needle sites on the ovaries.

Rupturing of the endometriotic cysts without complete evacuation may have put the patient at higher risk of adhesive disease than complete and successful aspiration. If this was the case, then more expedient scheduling of the second laparoscopy might have reduced the formation of adhesions. Unfortunately, there is no way to predict whether transvaginal aspiration of endometriomas will be successful without first attempting such a procedure. By ultrasound, both serosanguineous and viscous cystic fluid appear as a homogeneous unilocular cyst with low level echoes. If ultrasound identifies solid components suggestive of a fibrin clot, then more tenacious material can be expected at the time of transvaginal aspiration.

Ultrasound-guided drainage of endometriomas may have some application in the diagnosis of disease, or in treating those patients who are not good surgical candidates or who have experienced IVF failures. It is considered relatively safe and non-invasive. However, there are associated complications, including abscess formation (Padilla, 1993), recurrence (Aboulghar et al., 1991; Zanetta et al., 1995) and the need for subsequent surgery. In this case unsuccessful transvaginal drainage was associated with de-novo pelvic
adhesions. Patients with ovarian endometriomas should be advised of the potential for adhesive disease following transvaginal aspiration.

References

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