

Adnexal salvage through a 2-stage laparoscopic operation in a young woman with adnexal torsion

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In the conservative management of adnexal torsion, cystectomy is indicated after detorsion when a neoplasm is involved. Cystectomy is technically very difficult in case of an ischemic edematous adnexa. We report a case of adnexal torsion in a young woman, in whom a 2-stage laparoscopic operation was adopted for successful cystectomy.

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Introduction

Adnexal torsion accounts for roughly 3% of gynecologic emergencies¹. Patients usually present with lower abdominal pain that is severe enough to prompt us surgical intervention². Adnexectomy, which involves complete removal of the cause, has long been the standard treatment option³. However, removing both the ovary and the fallopian tube is associated with potential problems for future fertility in adolescent girls and women of child-bearing age. Therefore, it is reasonable that adnexal torsion in young women be managed conservatively, with gentle untwisting of the pedicle and possible cystectomy^{1-2,4-10}. Cystectomy is mandatory when a neoplasm is involved, but in black-bluish ischemic adnexa, it is usually difficult to identify and remove the causative cyst. In this report, we describe successful cystectomy 9 weeks after the first laparoscopic operation, during which we untwisted the black-bluish ischemic adnexa resulting from torsion. We discuss the merits of this 2-stage laparoscopic operation for adnexal torsion.

Case report

A 25-year-old woman, gravida 0, para 0, who had recently been diagnosed with a bilateral adnexal mass, presented with lower abdominal pain. Magnetic resonance imaging (MRI) scans taken 3 weeks earlier suggested that the left adnexal mass, which was 8 cm in size, was an ovarian dermoid cyst. The right adnexal mass, which was 9 cm in size, had a multilocular appearance with an internal signal representative of mostly water, with some blood, suggesting a hemorrhagic lutein cyst. We suspected that the cause of the serious abdominal pain was torsion of one of the adnexal masses. Although she had been admitted to our hospital 2 days earlier and was supposed to have undergone an operation the following day, she immediately underwent emergency laparoscopic surgery.

On laparoscopy, the right adnexa was found to be in torsion X 3, consisting of an edematous, black-bluish, enlarged non-cystic ovary and a second large hemorrhagic mass that appeared to be a hematosalpinx. We gently untwisted the pedicle, but the fragile surface of the ovary was partly damaged, and a small amount of serous content fluid leaked out. After detorsion, the color of the fallopian tube

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gradually returned to normal, but that of the right ovary remained unchanged during the operation (Fig. 1). In the left adnexa, we identified a dermoid cyst of 8 cm in size in the left ovary, which we enucleated. Postoperatively, the patient's lower abdominal pain persisted for 2 days, with fever for 3 days, but the patient presented with no additional symptoms. Biopsy of the right ovary revealed a blood clot.

In the MRI scan taken 7 weeks after the first operation, we found a multilocular mass 7.8 cm in size in the left adnexal region. No mass was identified in the right adnexal region. Some of the locules of the mass in the left adnexal region showed a fat-compatible signal. In the second laparoscopic operation 9 weeks after the first operation, we found a serous cystic mass on the left ovary and a dermoid cyst on the right ovary adhering to the left adnexa. The color of both adnexa looked normal (Fig. 2). We released the right-left adnexal adhesion and with relative ease per-



Figure 1. Black-bluish appearance of the right ovary after detorsion during the first operation



Figure 2. Normal appearance of the Right ovary during the second operation

formed a cystectomy of the right ovarian dermoid cyst. After the 2-stage operation, ultrasound showed normal follicle development in the right ovary.

Discussion

In the present case, a 2-stage laparoscopic operation was effective at salvaging the black-bluish ischemic adnexa resulting from adnexal torsion. Long after detorsion, the affected adnexa recovered its primary component and size, which enabled us to identify the cause of the patient's symptoms by diagnostic imaging. At the second operation, we found that the affected adnexa had recovered its color, although it was covered in a filmy adhesion. We were able to excise the right ovarian dermoid cyst with ease and preserve the right adnexa.

Oelsner et al., who reported that 91.3% of patients with twisted bluish-black ovaries in their case series recovered function by detorsion with adnexal sparing, recommended that detorsion alone should be performed, and that cystectomy should be avoided, this recommendation was based partly on the fact that there is no clear plane of separation between the cyst and its bed, leading to the inadvertent removal of an undue amount of ovarian tissue, and partly on the fact that 18 of the 31 cysts removed in their series were functional and excision was not indicated⁹. Our case supports their recommendation.

Although it has been hypothesized that detorsion raises the risk of pulmonary embolism if the adnexal blood vessels are thrombosed¹¹, several authors have argued against this hypothesis^{4,12,13}. Pelvic abscess formation has been reported to occur after detorsion¹⁴; however, this seems to be a rare complication. Oelsner et al. reported that 5 of the 92 patients (5.4%) who had undergone detorsion experienced repeat torsion and therefore recommended that cystectomy should not be delayed too long⁹. In our current case report, we did detorsion followed by cystectomy in a two-stage conservative surgery without any complications. Further study and long-term follow-up should be needed to observe the pit-falls of the technique.

Conclusion

Two-stage, conservative management of adnexal torsion, appears to be a safe and effective procedure for salvaging black-bluish, ischemic adnexa, and should be encouraged whenever fertility is desired. This management procedure

can be performed by laparoscopy or laparotomy, but laparoscopy should be the preferred approach from the standpoint of minimally invasive surgery.

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