Effective treatment of tubal angiomyofibroblastoma via laparoscopic complete resection

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ABSTRACT

Angiomyofibroblastoma is a rare mesenchymal tumor usually originating from the vulva and vagina with only one reported case arising from fallopian tube. We describe a second case of tubal angiomyofibroblastoma treated successfully with laparoscopic complete resection.

1. Introduction

The first case series of angiomyofibroblastoma, a rare benign mesenchymal tumor that usually affects the vulva and vagina of reproductive-aged women [1], was reported in 1992 by Fletcher et al. Since then, five cases of pelvic angiomyofibroblastoma have been reported [2, 3, 4, 5]. Only one of these cases originated from the fallopian tube [5], and none were treated using laparoscopic procedures. Angiomyofibroblastoma can be differentiated from a more aggressive angiomyxoma by its well circumscribed border, much higher cellularity, and numerous blood vessels as well as conservative treatment for its benign counterparts. In this report, we describe our experience with a case of large tubal angiomyofibroblastoma that was successfully treated using laparoscopic salpingectomy, leading to an uneventful recovery. To our knowledge, this is only the second case of tubal angiomyofibroblastoma and the only one treated successfully with laparoscopy.

2. Methods

A 36-year-old woman (gravida 2, para 2) sought a second opinion at our department regarding right lower pelvic pain and presumably progressive uterine fibroids that were diagnosed 6 months earlier. Transabdominal sonography revealed a hypoechoic mass measuring approximately 6.2 cm in diameter, with an irregular border over the right adnexa (Figure 1a). Computed tomography revealed a moderately enhanced right adnexal tumor with an otherwise normal pelvic structure (Figure 1b). Laparoscopy was performed with two 10-mm ports over the umbilicus and the left lower lateral, and one 5-mm assistant port over the right lower lateral; a round and smooth surface mass arising from the isthmus of the right tube was observed in the pelvic cavity (Figure 2a). Tumor enucleation with unipolar scissors revealed a fleshy mass bulging from the right cornual area (Figure 2b). The mass was completely excised through right salpingectomy, and the remaining filamentous tissue was...
completely extracted from the right uterine cornual area (Figure 2c), and the whole specimen was extracted through the left lower port using an endobag (Figure 2c). The patient provided written informed consent for the publication of the data.

A frozen section analysis revealed a benign lesion. The final pathological examination indicated a tubal angiomyofibroblastoma with spindle cells and cords of epithelioid cells around numerous blood vessels, as well as loose fibromyxoid stroma without mitotic atypia (Figure 3). Reactive immunohistochemical staining revealed vimentin, desmin, smooth muscle actin, and estrogen and progesterone receptors but yielded negative results for cluster of differentiation 34 and pan-cytokeratin. Angiomyofibroblastoma was diagnosed on the basis of the morphologically well-demarcated border. The patient was discharged 3 days postoperatively and experienced an uneventful recovery.

3. Discussion

Angiomyofibroblastoma is a rare benign tumor that usually affects the vulvas and vaginas of reproductive-aged women, although sporadic tumors may originate from the cervix, bladder, urethra, and pelvic area [1]. Tumors originating from the vulva or vagina are usually smaller than those arising from the pelvic cavity. The treatment of angiomyofibroblastoma usually involves complete excision, and postoperative recurrence is rare [1]. This tumor type was first reported in the English literature by Fletcher et al., who emphasized that angiomyofibroblastoma should be differentiated from aggressive angiomyxoma primarily on the basis of morphology [1, 2], as the former generally exhibits a well-demarcated margin. The existing literature also contains reports of lipomatous angiomyofibroblastoma and sarcomatous transformation [1].

As noted previously, five cases of pelvic angiomyofibroblastoma have been reported, of which one each arose from the retroperitoneum, the posterior perivesicular space, the right ischiorectal fossa, the right fallopian tube, and the pouch of Douglas. However, none of these tumors were treated with minimal invasive surgery [2, 3, 4]. To our knowledge, ours is the second case of tubal angiomyofibroblastoma reported in the English literature and the first to be treated using laparoscopic complete resection, without any serious complications. We conclude that laparoscopic complete resection is feasible for the treatment of these lesions, once the diagnosis is made using a frozen section; recovery after minimal invasive surgery is faster than that after conventional laparotomy.

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Author contribution statement

All authors listed have significantly contributed to the investigation, development and writing of this article.

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