CEOG Clinical and Experimental Obstetrics & Gynecology

Case Report

Superficial cervical scar endometriosis following cone biopsy

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Summary

Background: Cervical cone biopsy is a common simple surgical procedure for cervical intraepithelial neoplasia and cervical microinvasive carcinoma, with post-surgical bleeding being a common complication. *Case Report:* A 30-year-old woman with a history of cone biopsy two years prior complained of cyclic genital bleeding during the luteal phase of menstruation for more than a year. She was diagnosed with cervical scar endometriosis after cone biopsy. Electric ablation suppressed her long-term atypical genital bleeding, which caused her discomfort. *Conclusion:* The authors treated a rare case of uterine cervical endometriosis after cone biopsy. We should consider ectopic scar endometriosis during the differential diagnosis of atypical bleeding in women who have had a cone biopsy.

Key words: Cone biopsy; Endometriosis; Electric ablation.

Introduction

Uterine cervical cone biopsy is a common surgical procedure for cervical intraepithelial neoplasia and cervical microinvasive carcinoma. A major concern of this relatively simple procedure is obstetric complications of future pregnancies (preterm labor, or abortion) [1-3]. In addition, post-surgical bleeding including heavier menstrual bleeding, increased duration of menstrual bleeding, and genital bleeding outside of menstruation, is another common complication, regardless of surgical procedure, including loop electrosurgical excision, cold knife cone, laser cone, or ultrasonically activated scalpel (i.e., harmonic scalpel) cone biopsy [4-6]. Especially, long-term atypical bleeding causes the patients discomfort and negatively affects the quality of life.

The authors experienced a case of cyclic genital bleeding outside of menstruation after cone biopsy. Interestingly, this bleeding was from scar endometriosis at the cone biopsy site.

Case Report

A 30-year-old Japanese nulliparous woman wished to conceive and presented to this hospital with symptoms of cyclic genital bleeding during the luteal phase of menstruation for more than a year. She was diagnosed with adenomyosis. Her menstruation was regular and basal body temperature was normal. Two years prior, she underwent cone biopsy for the treatment of cervical severe hyperplasia with potassium-titanyl phosphate laser (wavelength 532 nm). Histopathological examination revealed complete resection of the lesion and no signs of endometrial metaplasia. Follow-up cervical smear cytology examinations did not detect any abnormality for one year.

Current colposcopic examination revealed granuloma-like red thick lesions at the endocervix, which were far from the new cervical transformation zone following cone biopsy (Figure 1); no other abnormal findings could be detected. The edges of the lesion matched with those of the site of circumferential incision. Cervical smear cytology did not detect any abnormalities. Histological examination of the lesion revealed stratified squamous epithelium and subepithelial tissue with active inflammation. The lesion contained glands and stroma of proliferative endometrium with neither dysplasia nor cancer (Figure 2). Therefore, she was diagnosed with extrapelvic endometriosis of the uterine cervix following cone biopsy, which was causing the atypical bleeding. She wished to conceive and, hence, refused to undergo repeat cone biopsy. Instead, electric ablation was used to suppress the atypical genital bleeding and no recurrent macroscopic lesion was noted.

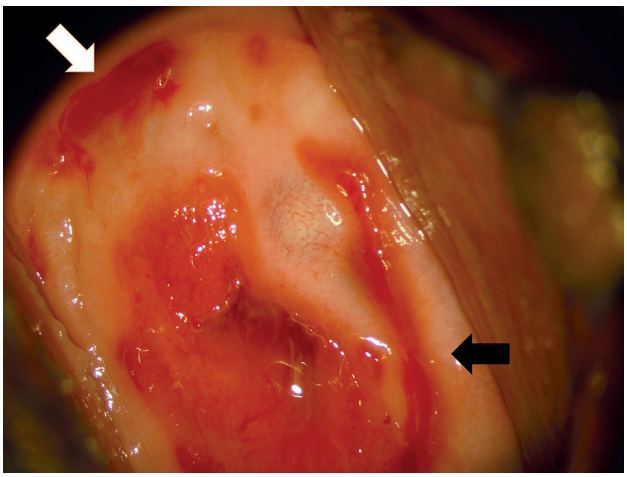

Figure 1. — Colposcopic finding. Granuloma-like red thickened lesions at the uterine endocervix are far from the cervical new transformation zone after cone biopsy (arrow). The biopsy sample is taken from the site indicated by the black arrow.

Revised manuscript accepted for publication November 27, 2017

Clin. Exp. Obstet. Gynecol. - ISSN: 0390-6663
XLVI, n. 2, 2019
doi: 10.12891/ceog4482.2019

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Published: 10 April 2019

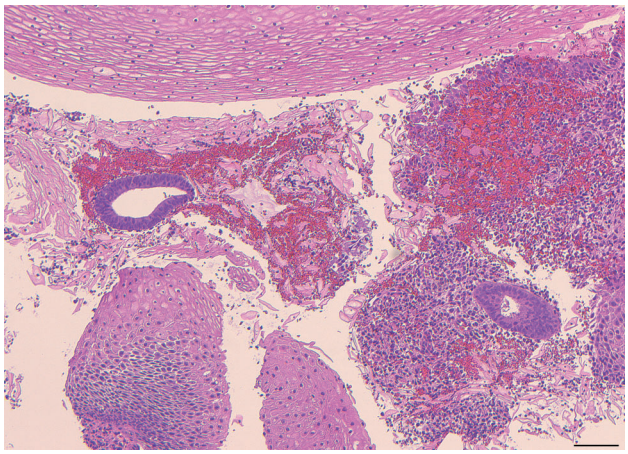

Figure 2. — Histological findings of the cervix. Some glands and stroma of the endometrium, in the proliferative stage, are seen in the superficial stroma of the cervix. (Hematoxylin and eosin staining, scale bar, 100 μm)

Discussion

The pathogenesis of endometriosis is based on theories like in-situ development theory, implantation theory, and some other theories. Among these theories, implantation theory can explain most cases of pelvic endometriosis. Scar endometriosis is a relatively rare condition following surgical treatment. Most cases of scar endometriosis occur at the site of skin incision after obstetrics or gynecological surgeries, such as cesarean section or hysterectomy, and its pathogenesis can be explained by the implantation theory [7].

Cervical endometriosis can develop either from implantation of menstrual endometrium following cervical procedures, embryonic remnants, or tubo-endometrioid metaplasia. Scar endometriosis following cone or punch biopsy of the cervix is a rare condition, and in many cases, it is an incidental finding after hysterectomy or cone biopsy [8]. Conversely, most of the previously reported cases, especially those without a medical history of cervical biopsy or surgery, might be derived from embryonic remnants or endometrioid metaplasia [9, 10]. In this case, cervical endometriosis was thought to be caused by cone biopsy and the implantation of endometrial cells, because histological examination of the first cone biopsy did not detect any endometrial glands or stromal cells; the cervical endometriosis must have been present on the surface of the cervix. It must have penetrated deeper during the cone biopsy and formed the macroscopic endometriosis of the cervix. Deep cervical endometriosis might originate from embryonic remnants, or from tubo-endometrioid metaplasia [9].

In a similar case of superficial cervical endometriosis following large loop excision of the transformation zone [8, 11], the patient developed cyclic intermenstrual genital bleeding, which may be a typical symptom of this eccentric type of endometriosis. Thus, any surgical intervention in the uterine cervix, regardless of surgical procedure, is a risk for cervical endometriosis. It is unclear what other factors increase the risk of this rare scar endometriosis. Like abdominal scar endometriosis [12], it is not clear whether cervical scar endometriosis is affected by pelvic endometriosis [9], although this patient suffered from adenomyosis.

Because persistent atypical bleeding caused the patients discomfort, we should consider the suppression of this symptom. In patients of reproductive age wishing to conceive, if histological examination of punch biopsy revealed a definitive diagnosis of scar endometriosis, electric ablation is an effective treatment of the atypical bleeding from the superficial endometriosis of the uterine cervix, as well as peritoneal endometriosis, to prevent complications in future pregnancies [13].

In conclusion, it is important to consider this unique form of ectopic scar endometriosis during the differential diagnosis of atypical bleeding in women who have had a cone biopsy.

Acknowledgments

The authors thank Teiichi Motoyama for the histopathological assessment.

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