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Case report

Complete cervical stenosis after conization: Timing for the minimally invasive reconstructive surgery

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ABSTRACT

Among various long-term complications after conization, complete cervical stenosis is rare (<1%) but significant. This condition is typically associated with secondary amenorrhea, cyclical lower abdominal pain, and hematometra during menstrual periods. The risk of developing this condition is strongly associated with an estrogen-deficient state. Recently, we experienced a case of complete cervical stenosis after conization performed during lactation amenorrhea. Because our patient visited us during an intermenstrual asymptomatic period, we wondered when was the best time to perform minimally invasive reconstructive surgery. Until now, there has been no report concerning suitable timing for surgery for this condition. The clinical course of our case and clinical considerations associated with this rare complication are discussed.

Introduction

As the number of women of reproductive age affected by cervical intraepithelial neoplasia (CIN) increases, it has become more necessary to treat CIN conservatively.[1] Among conservative treatments, electrosurgical conization has recently become a widespread procedure because of its technical ease and cost-effectiveness.[2] Long-term major concerns after conization include some serious complications such as cervical stenosis, reproductive problems, and obstetric morbidity.[1] Complete cervical stenosis is the most severe form of cervical stenosis and is frequently accompanied by hematometra during menstrual periods.[3] The incidence of this condition is reported to be <1%.[4] This condition is typically manifested as secondary amenorrhea after conization and cyclical lower abdominal pain.[5] Recently, we experienced a case of this rare complication after conization with these typical symptoms. In this case, we wondered when was the best time to perform a minimally invasive reconstructive surgery for complete cervical stenosis, because our patient consulted us during an intermenstrual asymptomatic period. We present the clinical course of our case and discuss clinical considerations associated with this rare condition.

Case report

A healthy 34-year-old woman, gravida 1 para 1, visited our hospital because of secondary amenorrhea and cyclical abdominal pain for over 6 months. She had a history of cervical conization during lactation amenorrhea. Eighteen months ago, she underwent electrosurgical conization using the Shimodaira-Taniguchi conization method because of CIN3 4 months after giving birth to her first child. The depth of surgical excision of the cervix was short (<1 cm) because the squamocolumnar junction of her cervix was clearly visible and she desired a future pregnancy and childbirth. At the initial visit, we could not identify the external os of the cervical canal by vaginal examination, but the presence of a convergence of vaginal mucous folds indicated where her missing external os had been (Fig. 1A). Transvaginal ultrasonography demonstrated a normal-sized uterus with a small uterine fibroid and the uterine endometrium suggestive of the secretory phase. Inferring from her medical interview and vaginal examination findings, we made the clinical diagnosis of complete cervical stenosis following conization. At this time, we made a clinical judgment about the timing of reconstructive surgery and decided to perform the procedure during her next menstrual period. We speculated that

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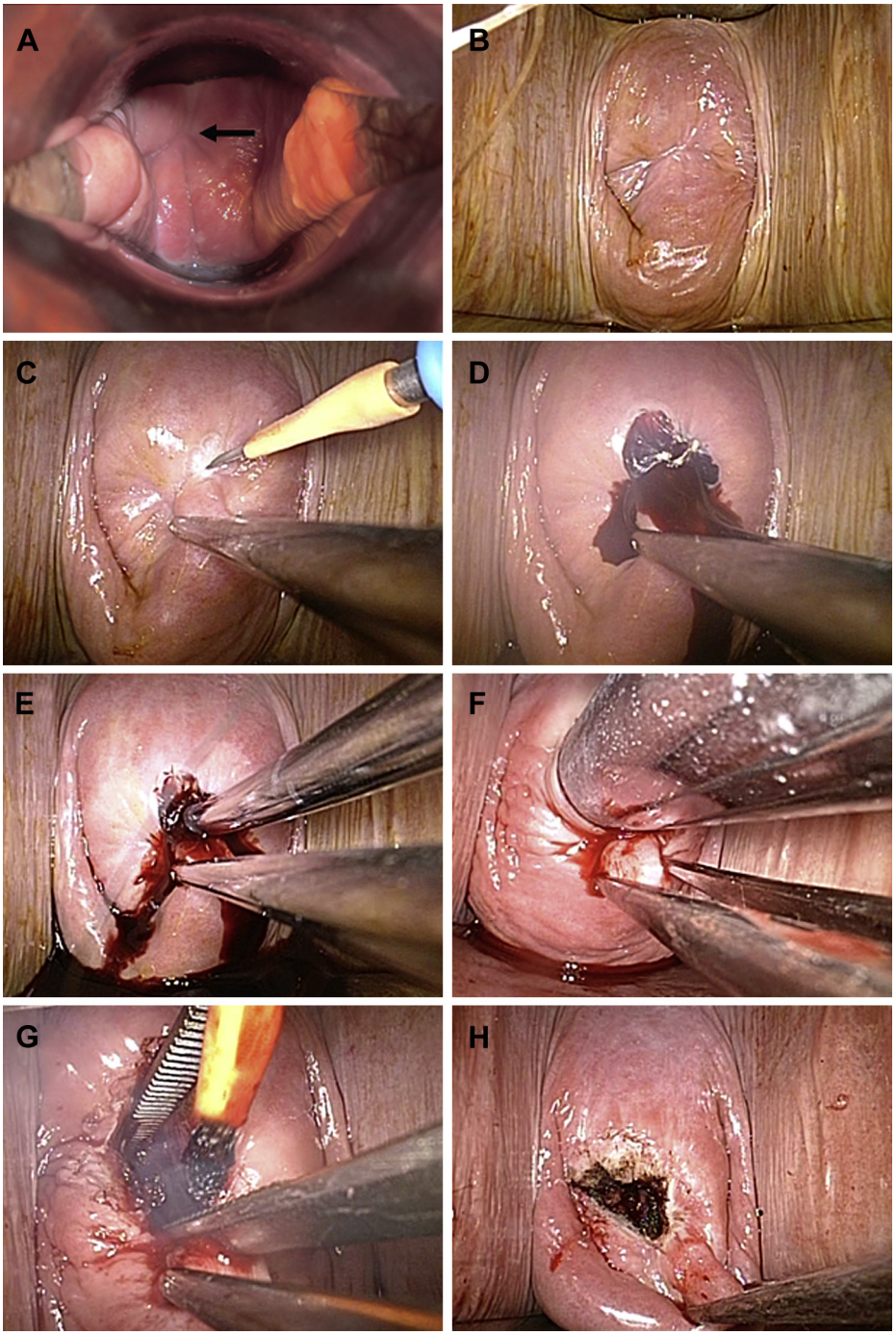

Fig. 1. Macroscopic findings at the first visit and during reconstructive surgery. (A) Vaginal speculum examination demonstrated an absence of external os, but the presence of a convergence of vaginal mucous folds (black arrow) indicated its past existence. (B) The outward bulging of the vaginal wall as a result of retained menstrual blood in the cervix. (C) Opening of the cervical canal using an electrosurgical knife. (D) A spout of accumulated blood from the new external os. (E) Cervical dilatation using a 4-mm Hegar dilator. (F) Cervical dilatation using a 15-mm Hegar dilator. (G) The all-around edge of the new external os was coagulated using an electrosurgical knife both for hemostasis and prevention of relapse. (H) The appearance of the new external os at the completion of surgery.

hematometra during menstruation allows easy detection of the external os and makes it safe to perform a mechanical cervical dilatation because of both the presence of menstrual blood pooling and the spontaneous dilatation of cervical canal. More than anything, it leads to a definitive diagnosis of the patient's disorder.

Three days later, she revisited our hospital because of lower abdominal pain without genital bleeding. Transvaginal ultrasonography demonstrated a pooling of fluid in the uterine cavity and marked dilatation of the uterine cervix. Magnetic resonance imaging clearly revealed the presence of hematometra (Fig. 2). Reconstructive surgery was performed that day for complete cervical stenosis with the patient under lumbar spinal anesthesia (Fig. 1). Following the opening of the cervical canal using an electrosurgical knife and the confirmation of a spout of accumulated blood, the new cervical os was dilated gradually with Hegar dilators sized from 4 mm to 15 mm under ultrasonic guidance. For 1 month after the surgery, the patient visited our hospital twice a week for mechanical cervical dilatation using a synthetic osmotic dilator