



Management of Cervical Stenosis - Mechanical Dilatation Adjunct with Hormonal Therapy

Wong Pui Ying*; Yu Chun Hung

United Christian Hospital, 130 Hip Wo Street, Kwun Tong, Kowloon, Hong Kong.

***Corresponding Author(s): Wong Pui Ying**

United Christian Hospital, 130 Hip Wo Street, Kwun Tong, Kowloon, Hong Kong.
Email: wpy377@ha.org.hk

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Case Presentation

Madam C was a 39-year-old primiparous lady having history of one IVF pregnancy delivered by Caesarean section (CS). She was found cervical intra-epithelial neoplasia (CIN) 2-3 with loop electro-excision procedure (LEEP) performed 6 months after her delivery while she was still breastfeeding. 1.8cm-thick, 2cm-wide cervix was resected and diagnosed CIN 1. Two 6-monthly cervical smears were negative for CIN in the presence of transformation zone component. She presented to us 17 months after LEEP for severe lower abdominal pain which required pethidine for relief. She experienced hypomenorrhea with mainly brownish spotting, and intermenstrual spotting and dyspareunia since returning of menses 9 months after LEEP. Physical examination showed cervix was flushed with vault. Transabdominal (TAS) and transvaginal ultrasound scans (TVS) showed enlarged uterine cavity and endocervical canal filled with blood, up to 3.64cm. The clinical diagnosis was haematometra due to cervical stenosis after LEEP.

She was first managed by antibiotics and draining of blood by pipelle. Old blood was drained actively initially but soon re-accumulated. Further cervical dilatation was performed, and 30ml old blood was drained. A 8-French Foley catheter was inserted into uterine cavity and kept for a week.

5 months after cervical dilatation, Madam C complained of abnormal menstrual flow again. The flow was normal on day 1 but only scanty spotting in subsequent days. She also noted severe dysmenorrhea. Physical examination found the cervix was dimple like and failed to admit Pipelle or cytobrush. Ultrasound scan showed endometrial cavity and endocervical canal was distended by blood clot again. In view of the recurrence of haematometra, management options of repeated cervical dilatation versus direct hysterectomy were discussed. Since she still had fertility wish, she opted for repeating cervical dilatation.

Mechanical cervical dilatation was performed under ultrasound guidance with Hegar's dilators up to #5 with anesthesia.

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Some old blood was drained and allow passage of hysteroscopy for cavity assessment. Cervix was further dilated to Hegar's #8. An 18-French silicone Foley catheter was inserted into uterine cavity with tip balloon infused 5ml saline. The catheter was planned to keep for 3 weeks. Endometrial curettage showed proliferative endometrium and chronic endometritis. However, Foley catheter accidentally slipped out 4 days after the operation. Madam C was put on 3 cycles of oral Premarin tablet 1.25mg daily and cyclical oral medroxyprogesterone acetate 10mg daily on day 14-28 post operatively.

4 months after the operation, Madam C enjoyed regular monthly cycle with normal menstrual flow, and no further intermenstrual bleeding was noted. Speculum examination showed a normal looking cervix and was no longer flushed with vault. TVS showed endometrium at late proliferative phase with no further collection of blood. Hormonal treatment switched to Premarin vaginal cream. She planned to have IVF cycles in coming 2-3 months.

Discussion

There was no consensus of the definition of cervical stenosis. It ranges from a physical examination finding, that there is cervical scarring with narrowing of cervical canal and/or complete obliteration of the external and internal cervical os [1], inability of passing cell brushes or instrument into cervical canal [2], to a functional problem, that leads to haematometra, retrograde flow of menstrual blood into the pelvis in premenopausal women, possibly endometriosis and pyometra in patients with cervical or uterine cancer[3]. Unsuccessful therapy can lead to hysterectomy [4]. In this review, we would mainly focus on cervical stenosis after LEEP and conization. As there was no consensus on the definition, overall incidence after conization was 1.6-17% [5], while after LEEP was 1.3-5.2% [6].

One of the risk factors of post- LEEP cervical was resection depth of more than 16.5mm in postmenopausal women [2]. History of LEEP was also a significant predictor of stenosis in younger group of patients (OR 1.32, 95% CI 1.1, 1.72; OR 17.4, 95% CI 2.7, 112; mean age 34) [6]. Other risk factors included menopausal status, aging and the accompanying lack of oestrogen, use of progestin and curettage, <12 months since delivery [1,7]. In our case, Madam C was on breastfeeding when she underwent LEEP. It was postulated that amenorrhea or decreased frequency of menstruation would cause lack of natural dilatation of the cervical canal by menstrual blood. In addition, there were authors reported cases of complete cervical stenosis following conization during lactation amenorrhea [7].

Management of cervical stenosis

There were different methods on treatment of cervical stenosis reported. In our case we used mechanical dilatation by Hegar dilators under ultrasound guidance. A prospective study by Biggs et al. suggested dilatation under local anaesthesia by Hegar dilators was found to be tolerable in 93% (128/137) attempted procedures with 83% (119/128) successful rate. Only one case of vasovagal episode and infection reported respectively. 11% reported to have restenosis [8]. Another group suggested use of rotating the scope on the endocamera for mechanical adhesiolysis to overpass cervical stenosis, followed by blunt dilatation by 5Fr grasping forceps. 5Fr scissors, in adjunct with bipolar electrode if necessary, can be used to cut the fibrous ring. By using these methods, only 1.9% (580/31052) failed to access the uterine cavity due to cervical stenosis[9].

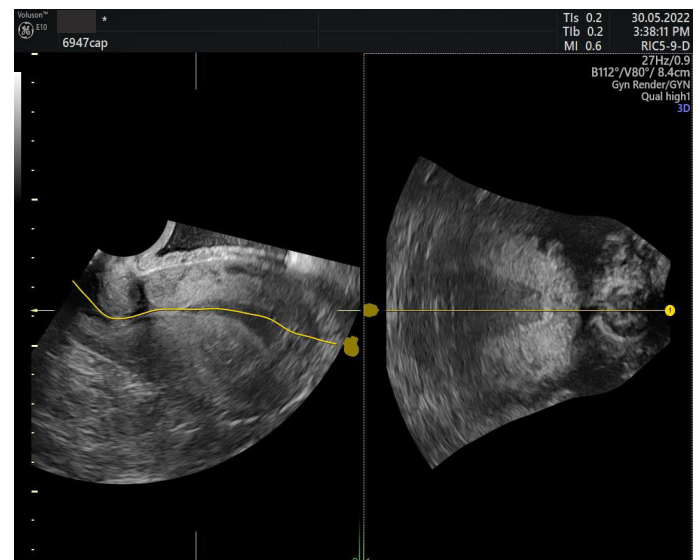
On the other hand, Motegi et al. reported a more aggressive approach for stenotic external ostium. A cruciate incision was used made at the external ostium and cervix was dilated with Hegar dilators. Endocervical mucosa was everted to ectocervix by 8 sutures after dilatation [10]. Musella et al. suggested use of silicone urethral catheter of 18 French and left in situ for 20 days. No recurrence was observed one year later [11]. Other methods suggested including metal stent after conization, 16-22 French Malecot catheter, coated nitinol stent, absorbable adhesion barrier [4]. Our case used the most readily available material and at reasonable cost.

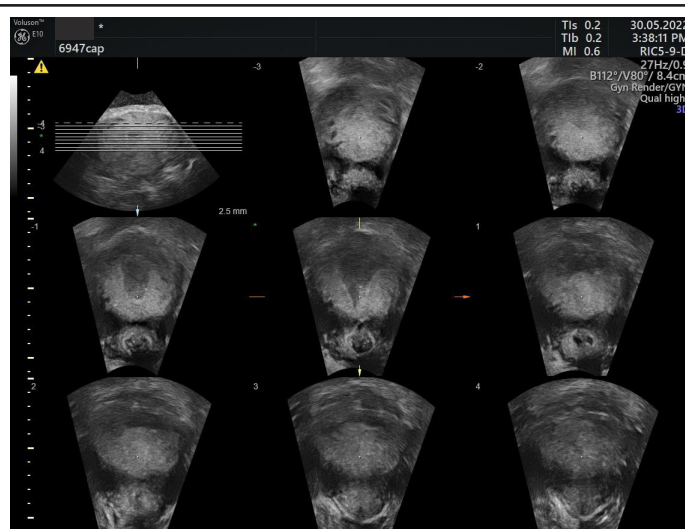
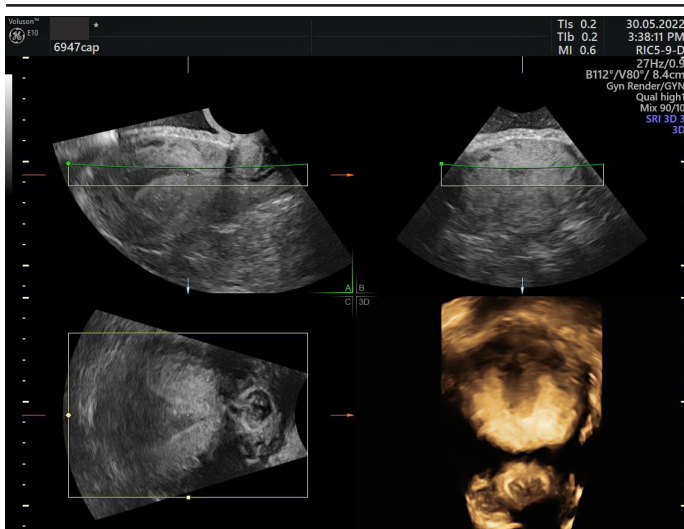
Management of maintenance of patency of cervical canal

Hormone Replacement Therapy (HRT) use following conization was associated with lower incidence of cervical stenosis. These suggested that cervical stenosis could also related to an oestrogen-deficient state [12]. In view of recurrent cervical stenosis after the first successful attempt, we gave hormone replacement to Madam C to prevent future recurrence. M Mathew et al also reported a case of cervical stenosis after evacuation and curettage for a partial molar pregnancy. Patient was treated successfully by inserted Copper IUCD during dilatation of cervix and hysteroscopy, followed by weekly dilatation of cervix in adjunct of one-month use of conjugated oestrogen with medroxyprogesterone acetate tablets [4]. Ivan et al. reported a case of recurrent cervical stenosis with haematometra. The 17-year-old girl who was put on medroxyprogesterone acetate was first treated with Nova T 380 coil only after cervical dilatation but haematometra recurred 6 weeks later. After repeated cervical dilatation, the patient was put on Qlaira and no further recurrence was noted after [13]. Motegi et al. used Levonorgestrel-Releasing Intrauterine System (LNG-IUS) for recurrent cervical dilatation and no recurrence of stenosis for 20 months and 12 months in the 2 premenopausal women reported. Since there were only sporadic cases reporting about use of hormone for maintenance of cervical canal patency, further studies are needed to prove its efficacy.

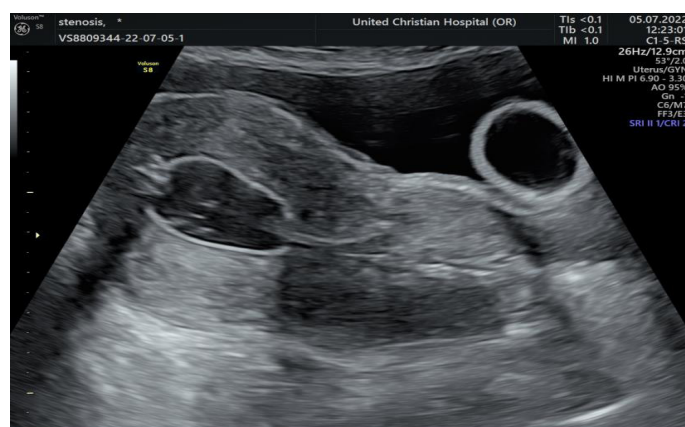
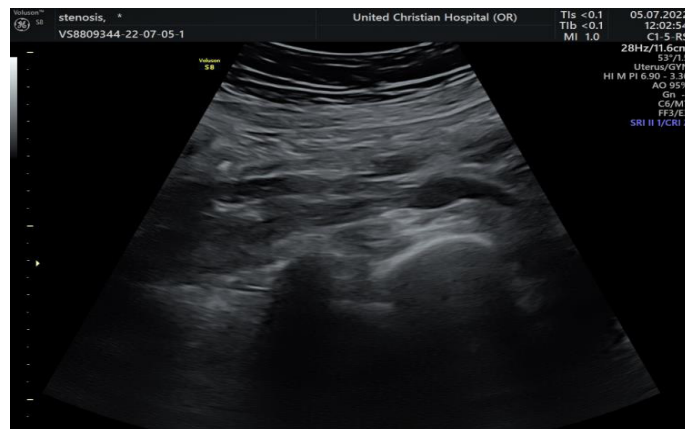
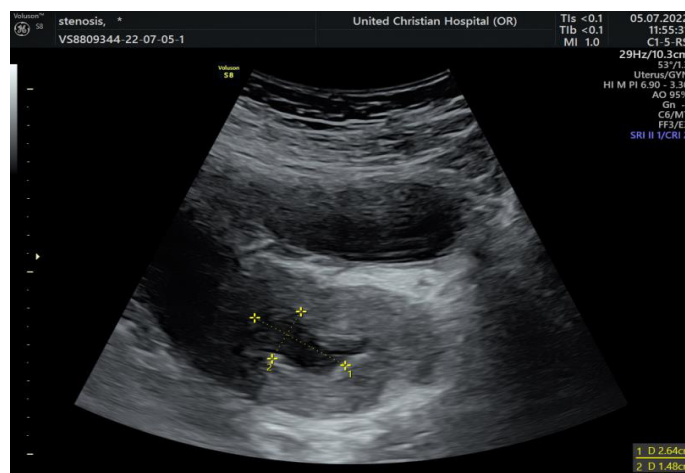
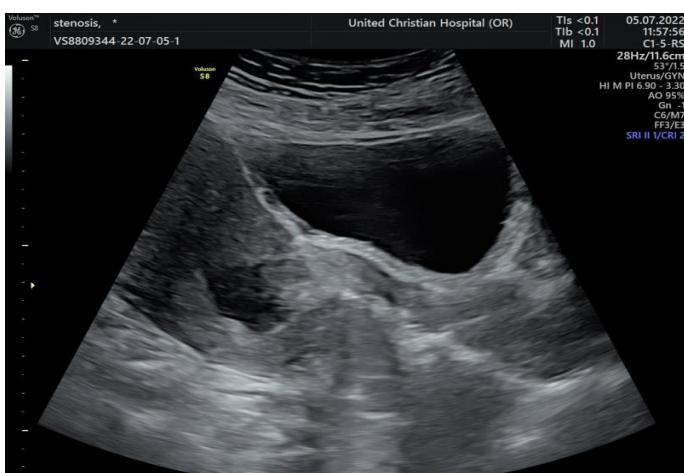
Conclusion

There was no single best treatment for treating cervical stenosis. Clinician should be aware that hypo-oestrogenic women and deep resection as risk factors of developing cervical stenosis after LEEP and conization. Mechanical methods in conjunct with additional hormone replacement post-operatively can be considered in case of re-stenosis.





Pre-operative ultrasound



Intra-operative ultrasound

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