



CASE REPORT

Management of Cervical Stenosis - Mechanical Dilatation Adjunct with Hormonal Therapy

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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 neoplasm (CIN) 2-3 with loop electro-excision procedure (LEEP) performed 6 months after her delivery. 1.8 cm-thick, 2 cm-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 3.64 cm. 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 afterwards initially but soon reaccumulated again. Cervical dilatation was performed by metal probe and suction catheter, and drained 30 ml old blood clot further. 8-French Foley catheter was inserted into uterine cavity and kept for a week.

5 months after cervical dilatation at follow-up, Madam C complained of abnormal menstrual flow. The flow was normal on day 1 but the subsequent days were only scanty spotting. She also noted severe dysmenorrhea.

Physical examination found the cervix was dimple like. Pipelle or cytobrush were failed to advance into the cervical os. 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 and direct hysterectomy were discussed. Since she still had fertility wish, she opted for repeating cervical dilatation.

Examination under anaesthesia (EUA) with cervical dilatation was performed by mechanical dilatation under ultrasound guidance up to Hegar 5. Some old blood was drained and allow passage of hysteroscopy which showed uterine cavity. Cervix was further dilated to Hegar 8. An 18-French silicone Foley catheter was inserted into uterine cavity with tip balloon infused 5 ml saline. The catheter was planned to keep for 3 weeks. Endometrial curettage showed proliferative endometrium and chronic endometritis. However, Foley catheter slipped out 4 days after the operation. Madam C was put on 3 cycles of oral Premarin tablet 1.25 mg daily and cyclical oral medroxyprogesterone acetate 10 mg 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 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.



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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 pass 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].

Risk factor of cervical stenosis included history of LEEP treatment, a LEEP resection depth of more than 16.5 mm in postmenopausal women [2]. Larger volume of tissue removed, history of LEEP were also found to be 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 cause 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 at the external osium and cervix was dilated with Hegar dilators. Endocervical mucosa was everted to ectocervix by 8 sutures after dilatation [10]. Musella,

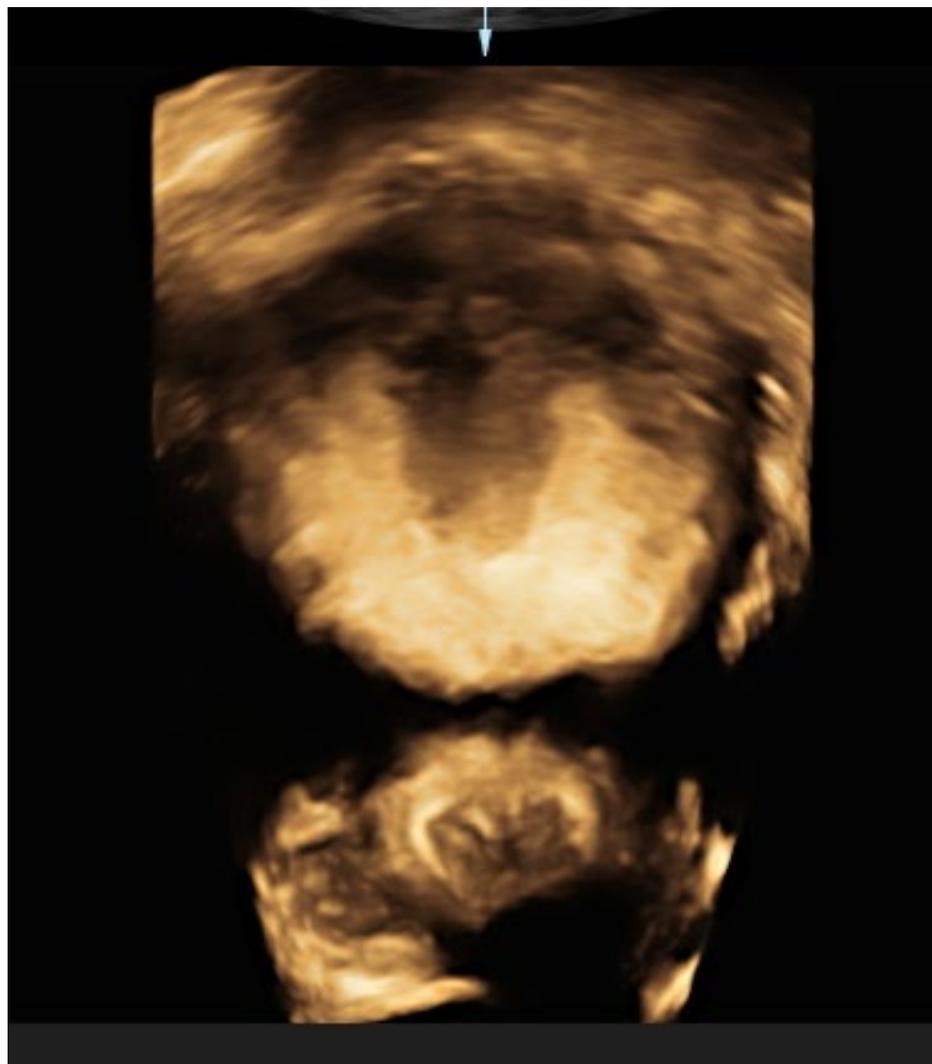
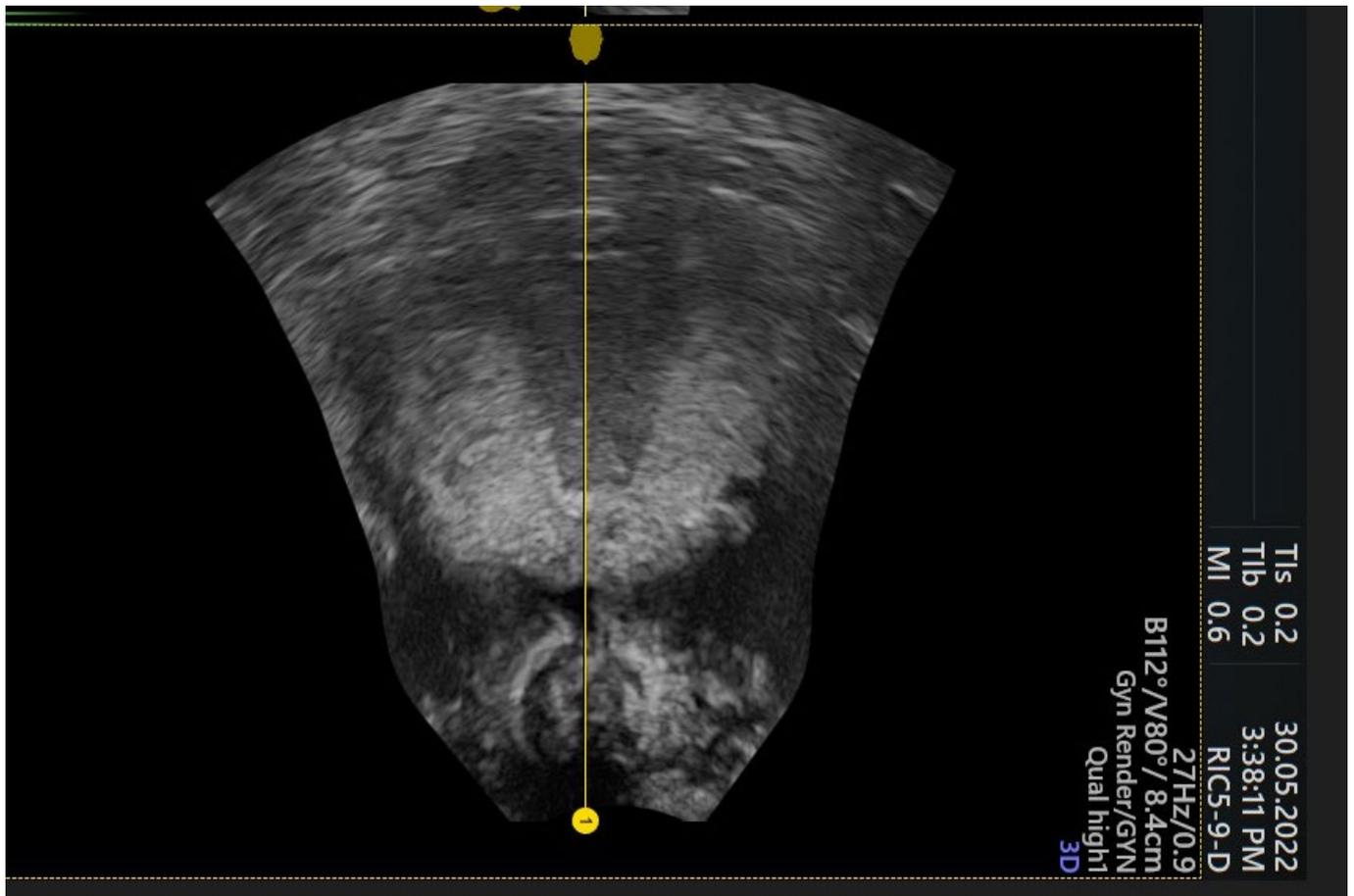
et al. suggested use of silicone urethral catheter of 18 French and left in situ for 20 days. No recurrence was observed one year later [5]. Tan, et al. also presented 5 successfully treated cases by 14-French Indoplas female urinary catheters and 4 of them successfully to conceive spontaneously [11]. Indwelling 12-14 French Nelaton catheter after conization procedure for ≥ 7 days in premenopausal women was found to reduce cervical stenosis [12]. Other methods suggested including metal stent after conization, 16-22 French Malecot catheter, coated nitinol stent, absorbable adhesion barrier [4]. Our method used the most readily available material and at reasonable cost.

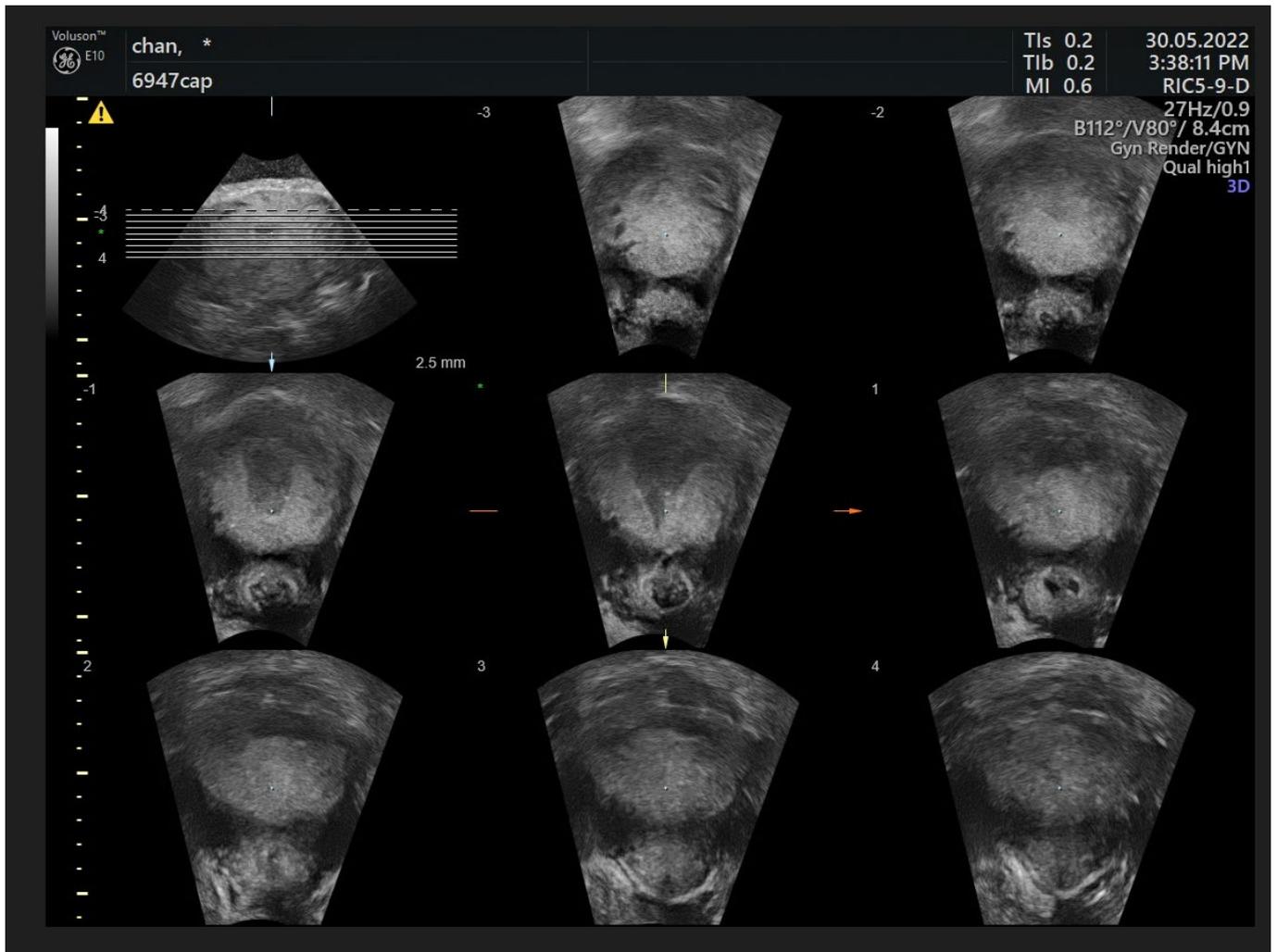
Management of Maintenance of Patency of Cervical Canal

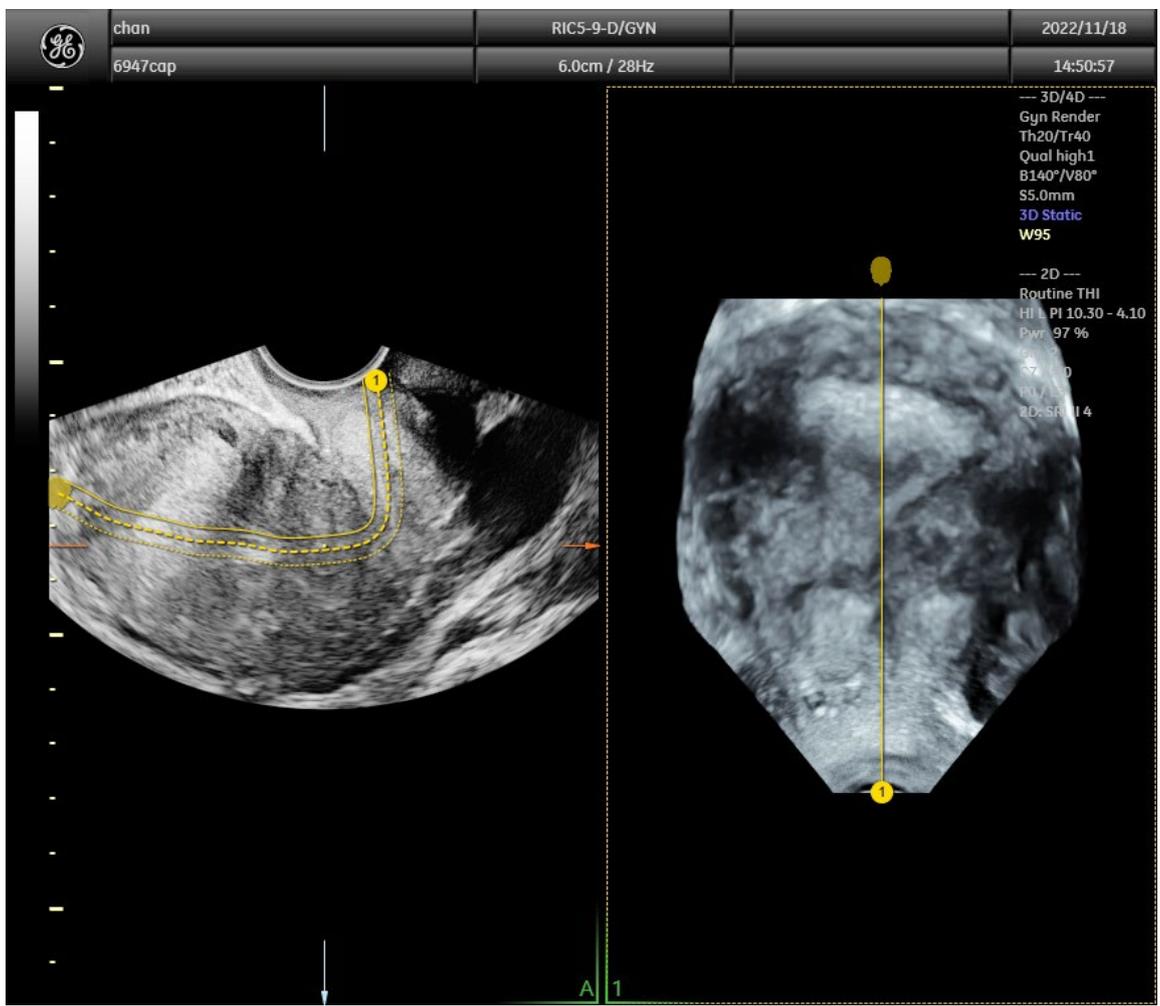
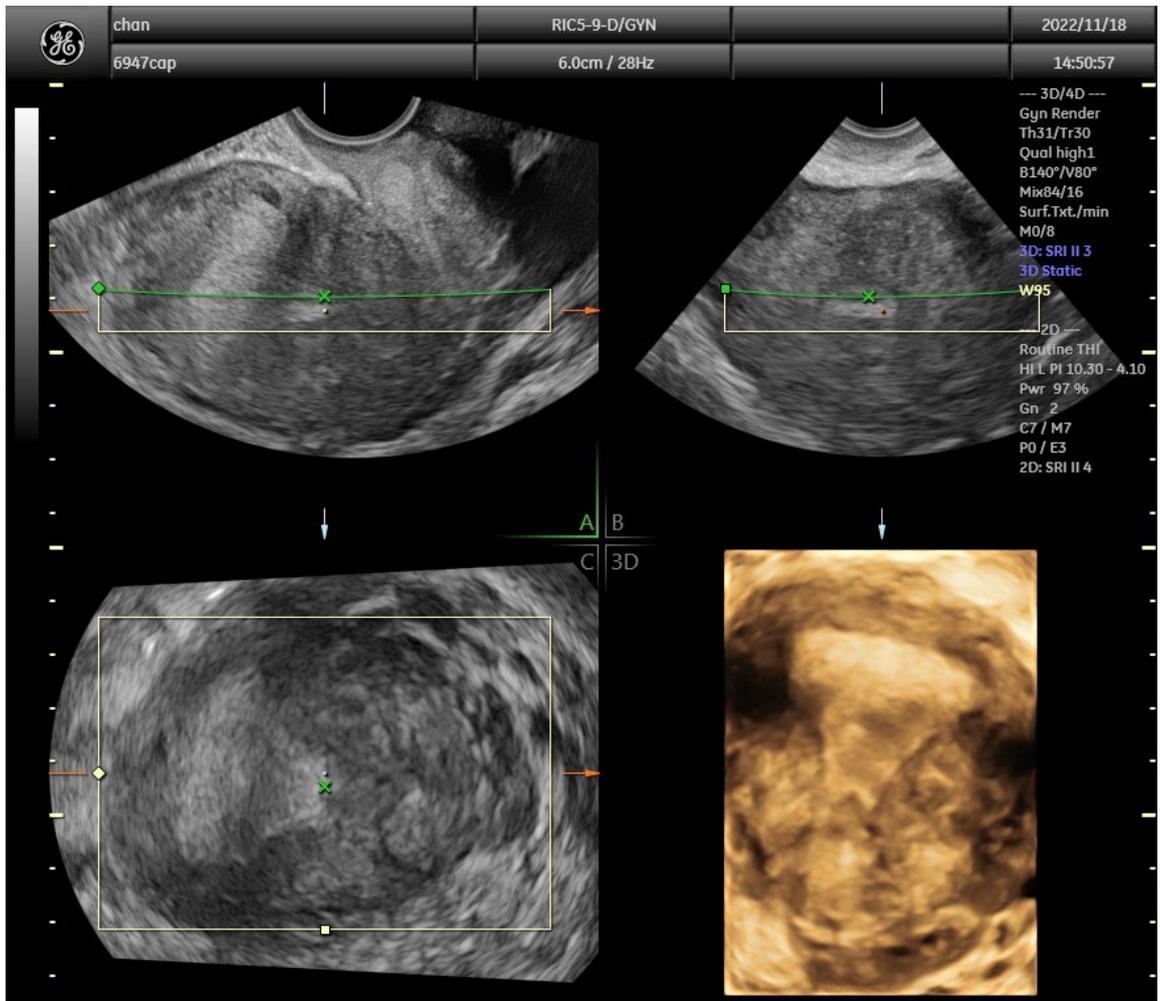
Hormone replacement therapy (HRT) use following conization was associated with lower incidence of cervical stenosis. These suggested that cervical stenosis could also related to an oestrogen-deficient state [13]. In view of recurrent cervical stenosis after the first successful attempt, we gave hormone 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 CuT 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 mederoxyprogesterone acetate was first treated with Nova T 380 coil only after cervical dilatation but haematometra recurred 6 weeks later. After repeated cervical dilatation and removal of the coil, endometrium was noted to be atrophic. The patient was put on Qlaira to aid re-growth of the endometrium. No further recurrence was noted 3 months after [14]. 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.

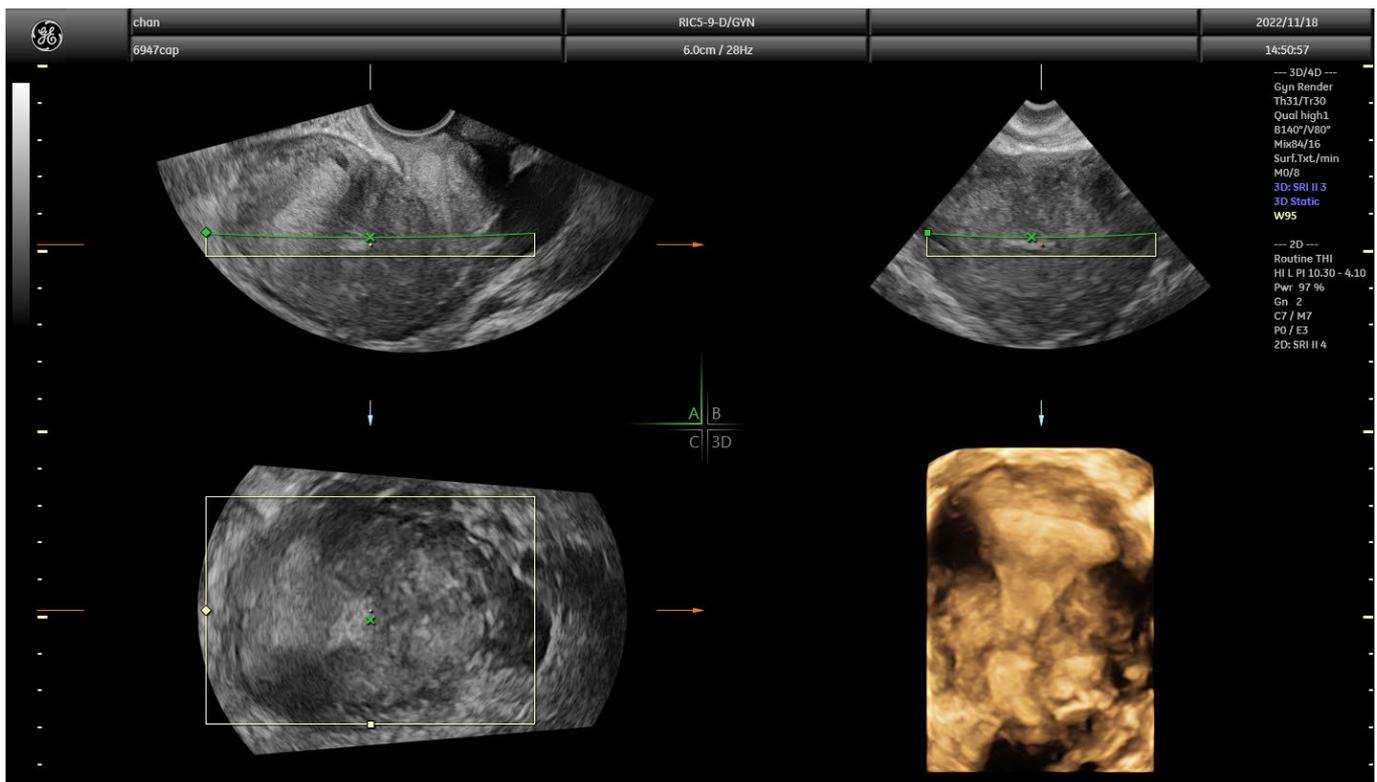
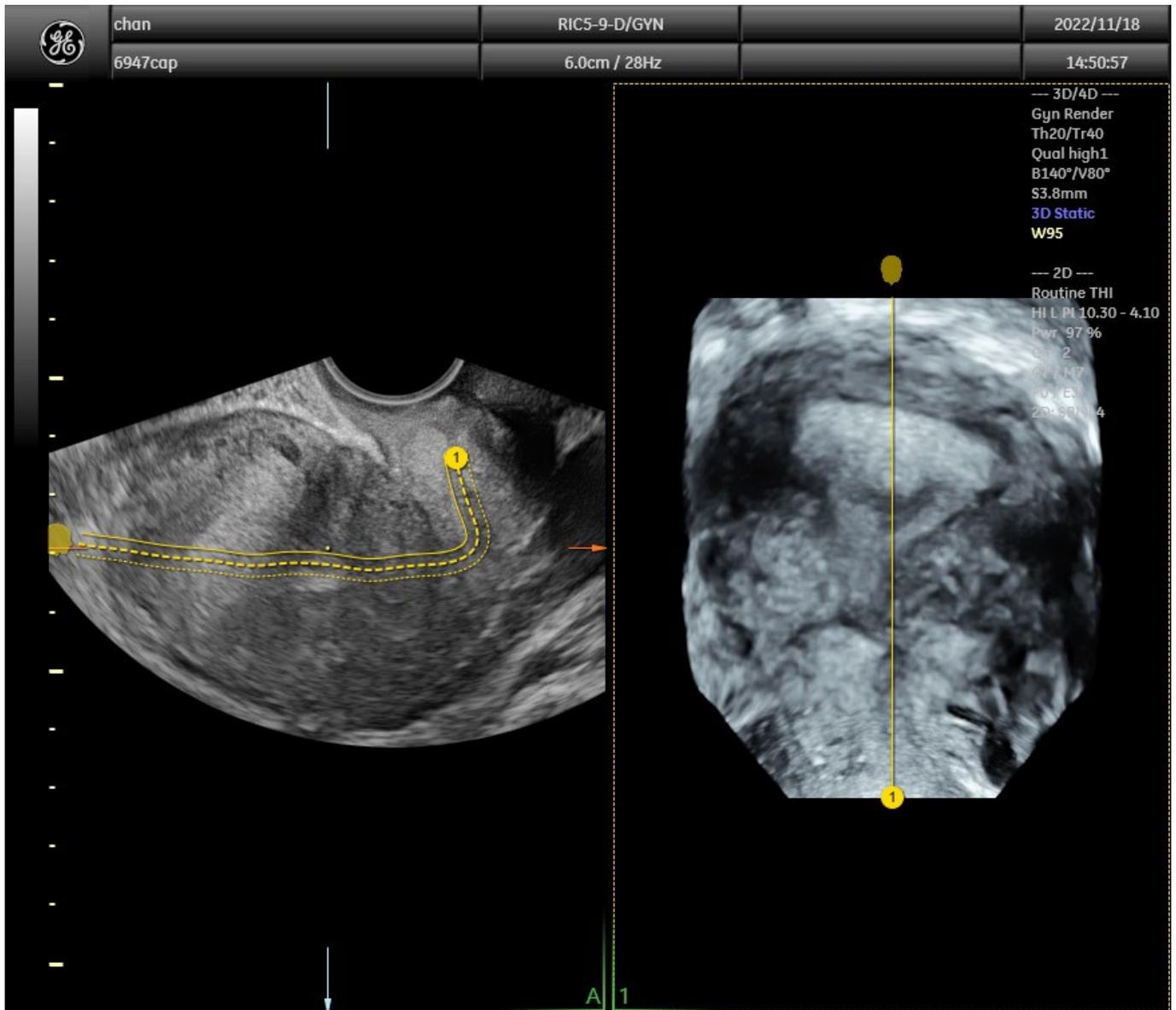
Conclusion

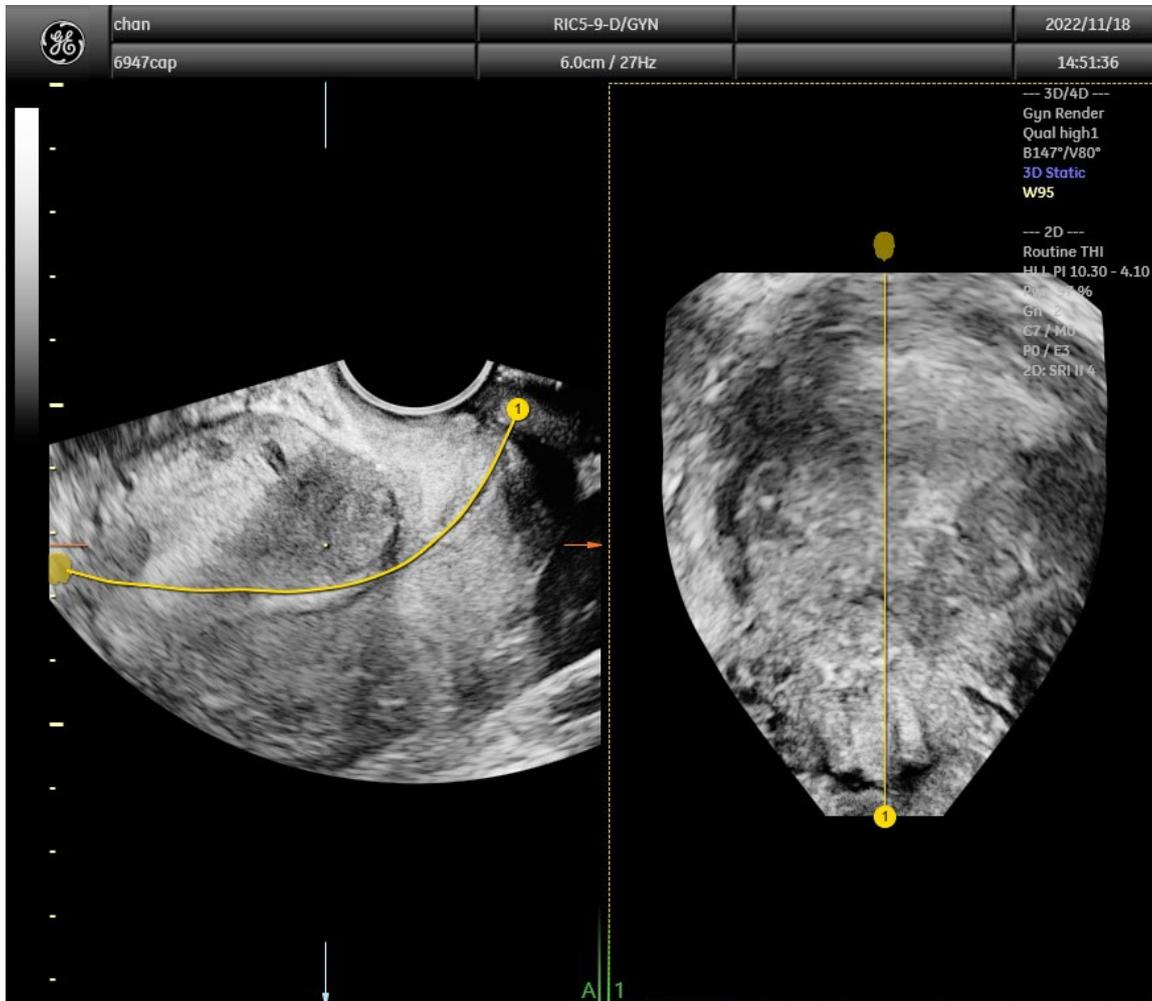
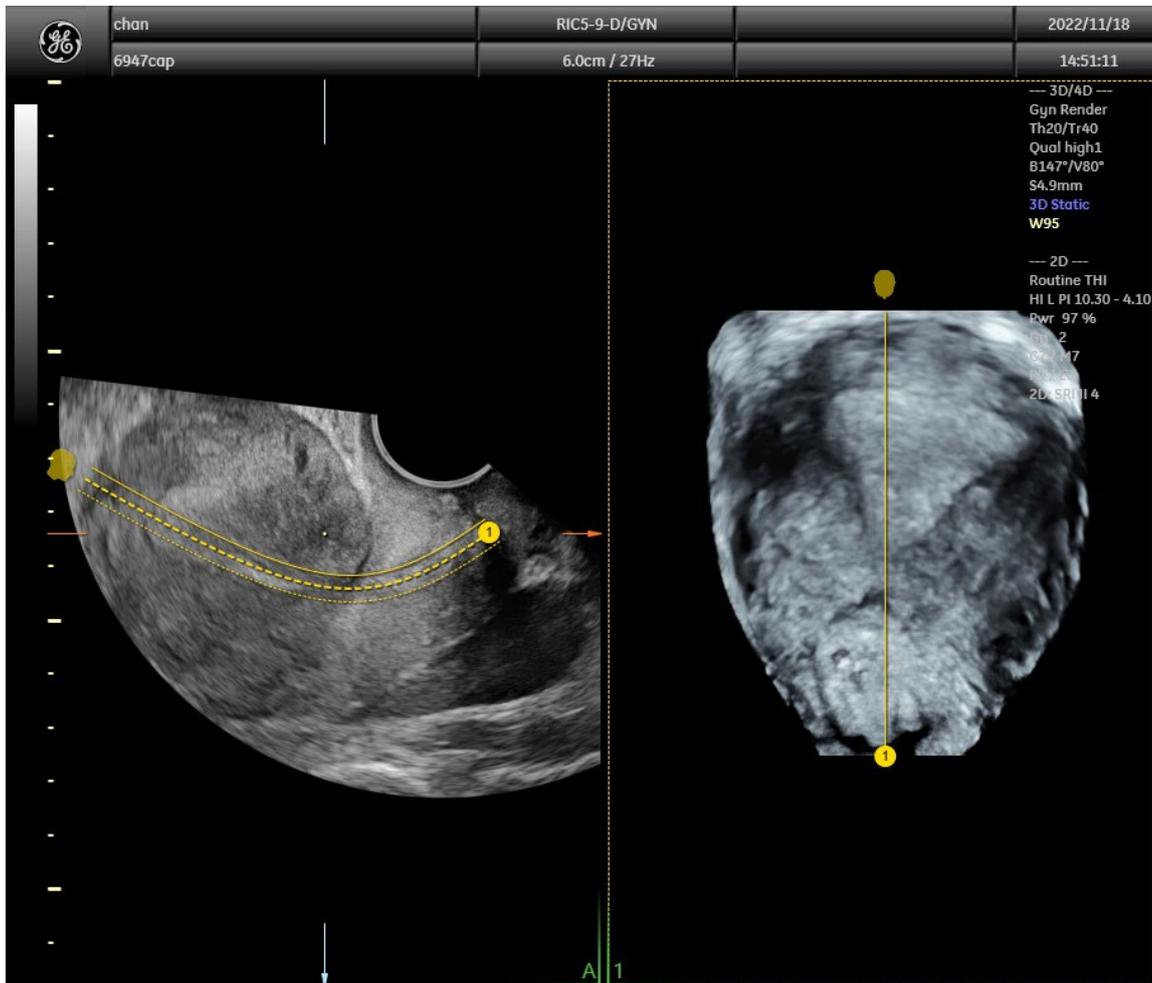
There was no single best treatment for treating cervical stenosis. Clinician should identify the hypo-oestrogenic women and deep resection as high risk of developing cervical stenosis after LEEP and conization. Additional hormone replacement or mechanical methods can be considered in case of re-stenosis (Supplementary Images).

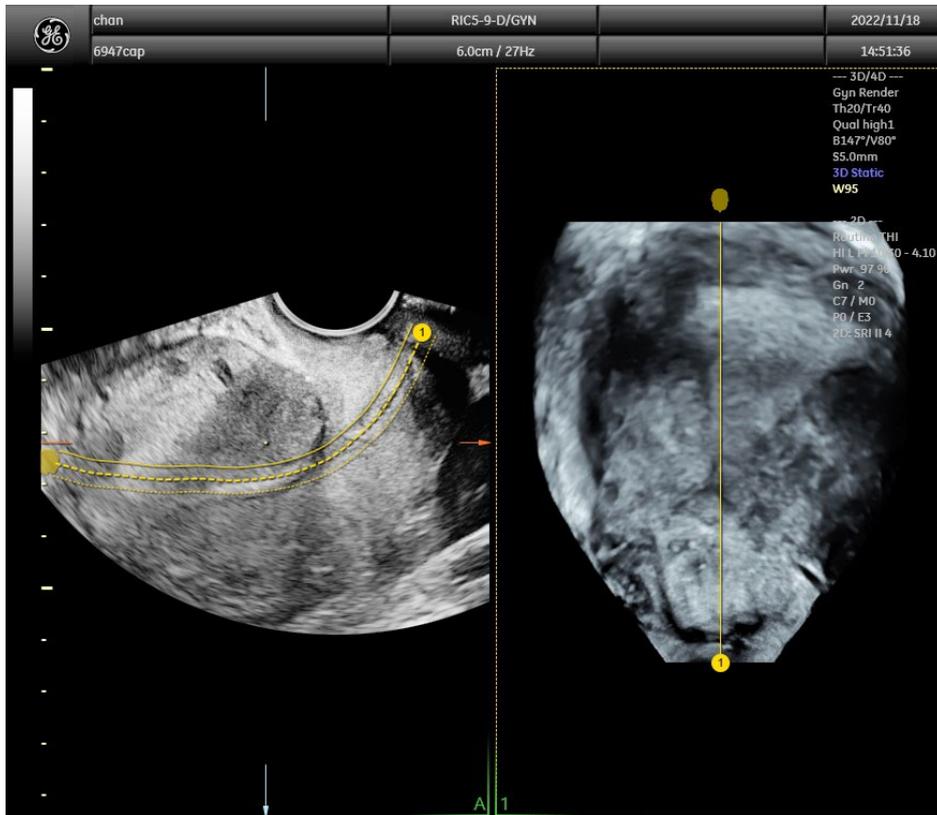






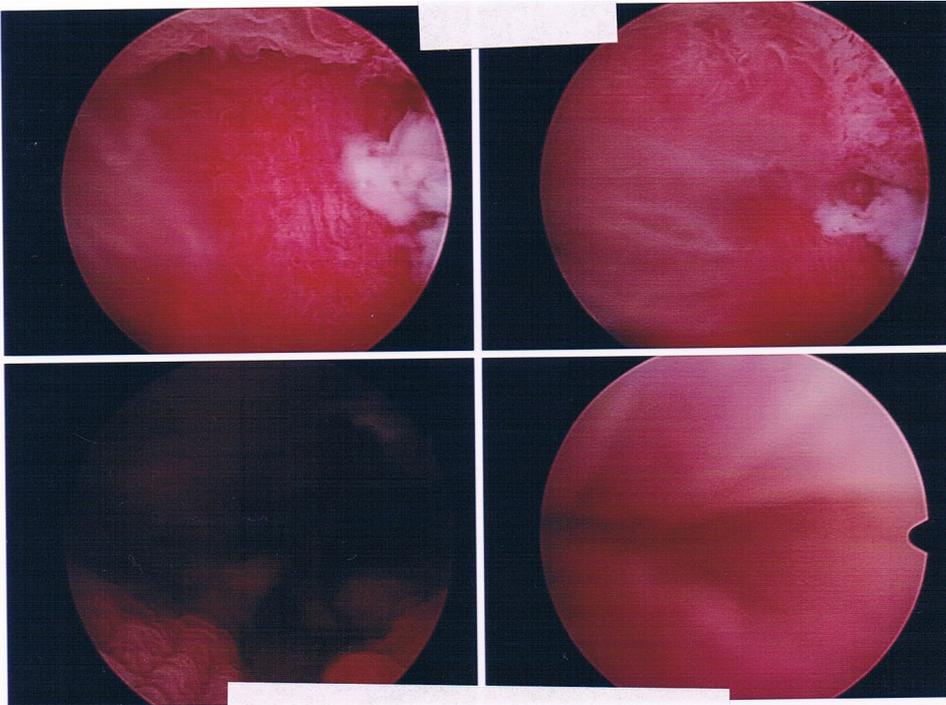






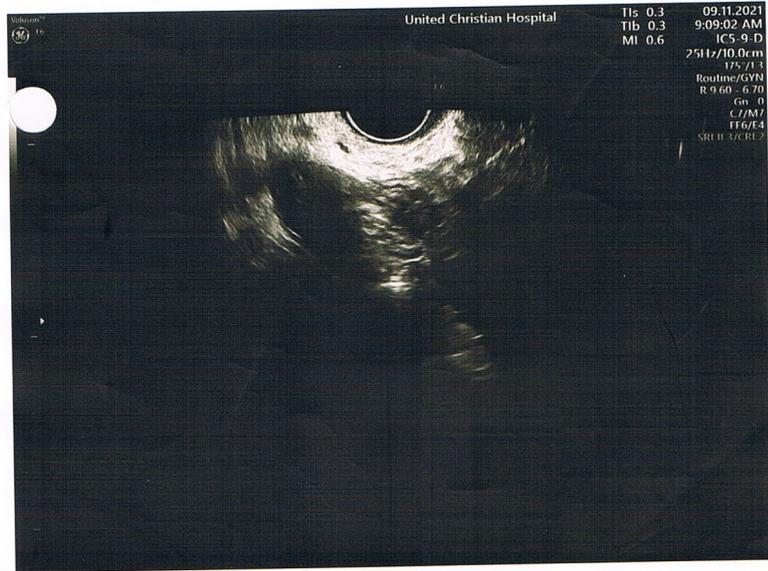
post drainage.

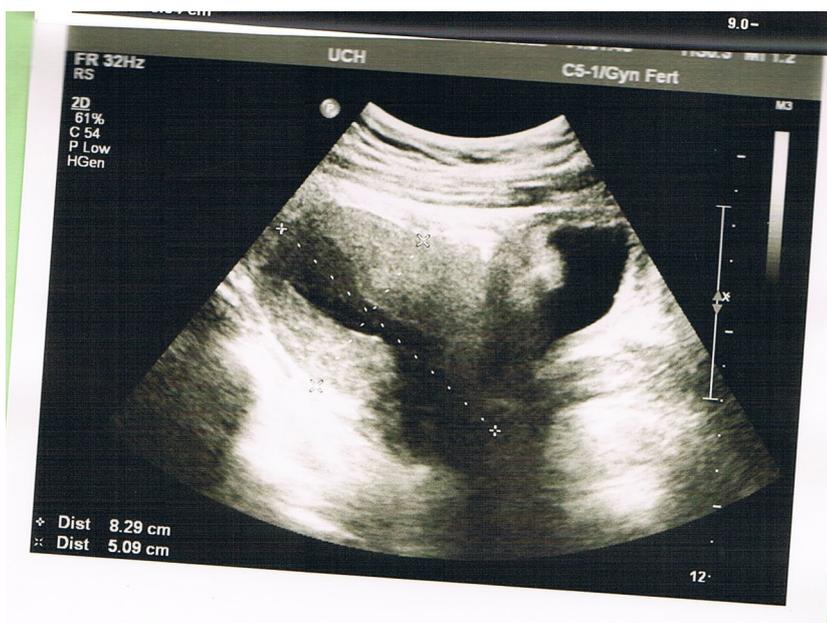
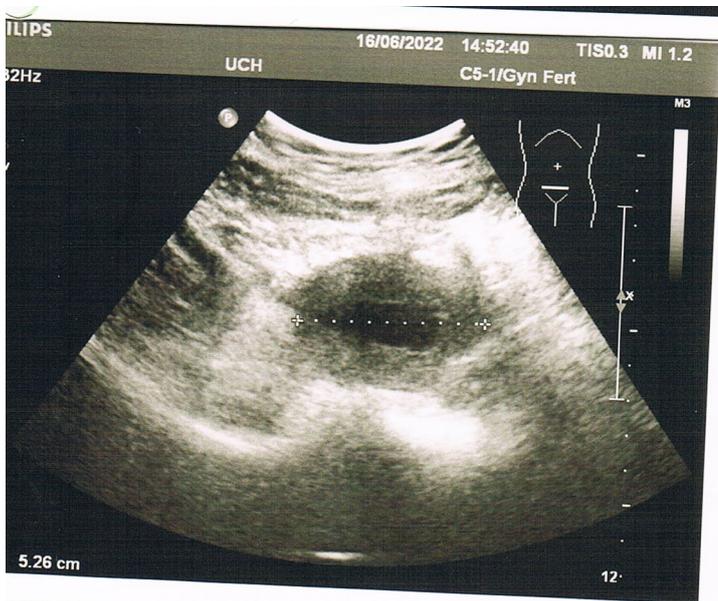


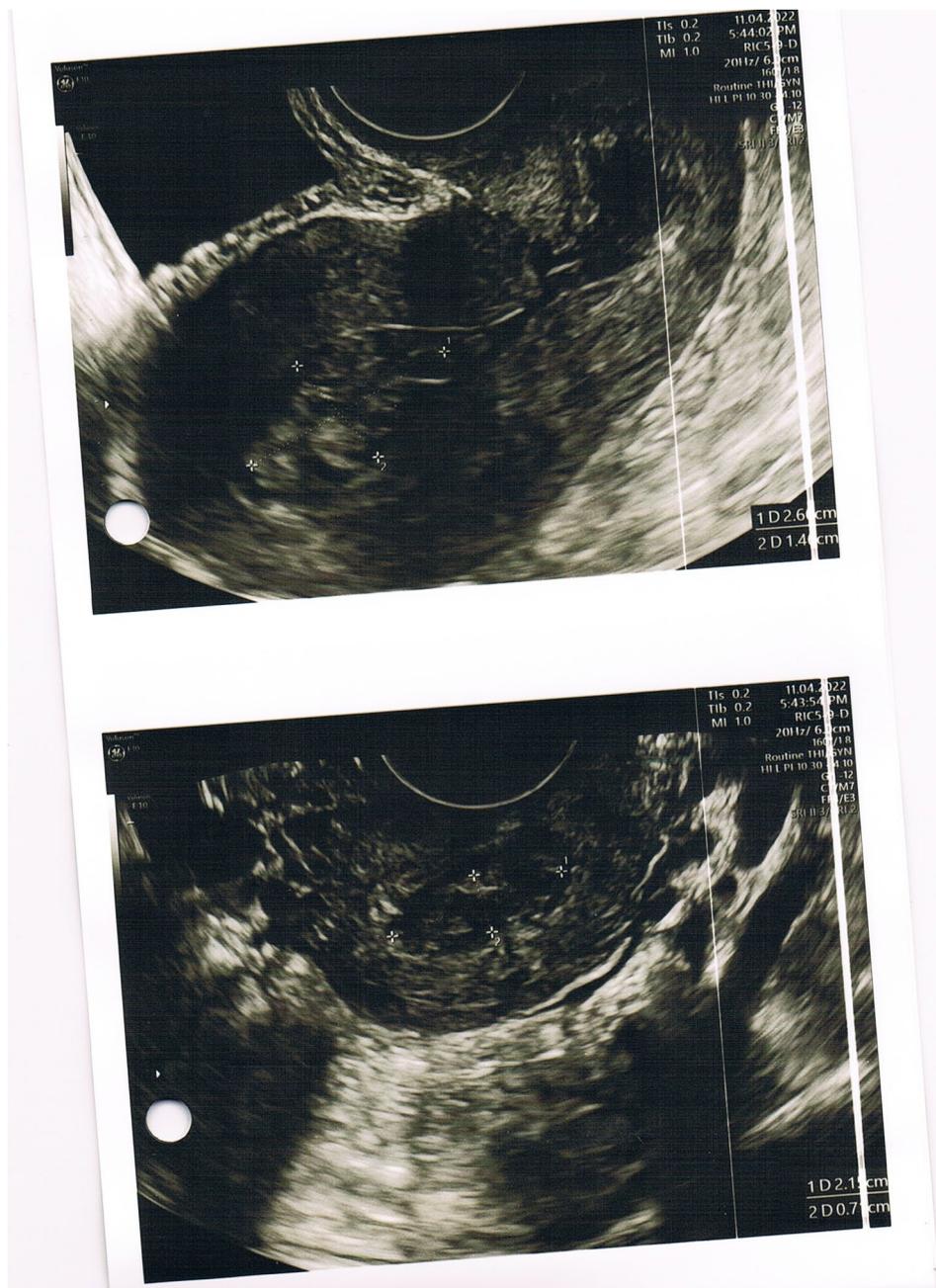


After toley insertion









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