CASE REPORT

Pregnancy with Malecot Catheter In Situ Following Cervical and Vaginal Reconstruction of a Cicatrized Vagina and Cervix: A Rare Case

Garima Kachhawa¹ · Nisha Malik¹ · Alka Kriplani¹ · Reeta Mahey¹

Received: 8 April 2015 / Accepted: 14 August 2015 / Published online: 11 September 2015
© Federation of Obstetric & Gynecological Societies of India 2015

About the Author

Garima Kachhawa is currently working as an assistant professor in the Department of Obstetrics & Gynaecology, All India Institute of Medical Sciences, New Delhi. She graduated from Dr. S.N Medical College, Jodhpur, Rajasthan, in 1994. She finished her PG from the same medical college in 1999 and senior residency from AIIMS in 2010. She then worked as a pool officer at AIIMS till 2012. She is a fellow of International Medical Science Academy and Indian College of Obstetricians and Gynecologists. She has a special interest in reproductive endocrinology, high-risk obstetrics, and endoscopy. She has 27 scientific publications in national and international journals. She has been awarded the best oral paper presentation at National Conference of Gynae Endocrinology in 2013, DSL Prize for the best poster presentation in ESICON 2012, SIULI RUDRA SINHA Prize for the best oral paper presentation at the 55th AICOG 2012, and AV GANDHI award for the best research in Endocrinology, 2010.

Introduction

The term “cervical stenosis” has been described as a wide range of cervical scarring, from subjective impression of narrowing to a complete occlusion [1]. In this report, we describe a rare case of cervical stenosis following trauma during child birth which was successfully managed and had

spontaneous conception after 3 months with Malecot’s catheter in situ.

Case Report

A 26-year-old P1L0 woman presented to us with complaints of scanty menses and dyspareunia since her last delivery which was about 1 year back. On detailed history taking, it was found that during her last pregnancy vaginal delivery was attempted by an untrained birth attendant at home. Multiple vaginal examinations were done in anticipation of vaginal delivery. When vaginal delivery could not be accomplished, she was taken to a nearby hospital where a fresh still-born baby was delivered by emergency cesarean section (C.S). She also has history of extensive vaginal tears due to forceful attempt of vaginal delivery. According to the patient, her postpartum period was uneventful. She resumed her menses about 8-week postpartum and since then she was having very scanty menses lasting for 1 day with scanty flow.

Garima Kachhawa is an Assistant Professor, Nisha Malik is Gynecologist, Alka Kriplani is HOD and Reeta Mahey is an Assistant Professor in the Department of Obstetrics & Gynaecology, All India Institute of Medical Sciences, New Delhi, India.

✉ Nisha Malik
dr.maliknisha@gmail.com

¹ Department of Obstetrics and Gynaecology, All India Institute of Medical Sciences, 3rd Floor Teaching Block, New Delhi, India

Her previous menstrual history included menarche at 13 years of age with regular menstrual cycles lasting 5–6 days. She also had new-onset dyspareunia. She had no significant past medical or surgical history.

On physical examination, her height was 152 cm and weight was 48 kg making her body mass index (BMI) of 21.3 kg/m². Her thyroid, breast, and systemic examinations were normal. On local examination, external genitalia were normal, upper vagina was fibrosed with an effective vaginal length of ~4 cm, cervix was not seen, and only a pin-point opening was seen flushed with vagina. On per vaginum examination, vagina was 4 cm shallow ending blindly, cervix was not felt, and a normal sized uterus was felt above the apex of the vagina.

Pelvic ultrasound showed normal uterus (7 × 3.5 × 3.2 cm) with no collection in uterus. Bilateral ovaries were normal. With these findings, a diagnosis of cervical and vaginal stenosis post child birth trauma was made. She was planned for cervical exploration and reconstruction of vagina.

Surgical Technique

The patient was placed in lithotomy position, and after bladder catheterization under general anesthesia vaginal exploration was done. External os could not be discerned and only a pin-point opening was seen at the apex of the vagina. Vaginal edges around the opening were held with Allis forceps and incised. After careful vaginal dissection, a small cervical tissue was seen which was dissected from all sides and a small stenosed cervical body was then visualized which was held with vulsellum (Fig. 1). On exploring the cervix, a cicatrized os was found through which hysteroscopy was attempted with a 4-mm hysteroscope, but it could not be introduced through the cervical canal. Uterine sound negotiated through the external os with difficulty till loss of resistance at internal os followed by dilatation with serial Hegar's dilators. Diagnostic hysteroscopy was done which revealed normal-sized uterine cavity and bilateral ostia. There was a small cervical canal of ~2 cm with adhesions on lateral wall. Adhesions of cervical body with vagina were removed and the vaginal wall was mobilized all around the cervix to create fornices. Vaginal mucosa was oversewn over the edges of cervical body all around with 2-0 polyglactin in an interrupted manner. At the end, a 16-Fr Malecot catheter was placed in the uterine cavity to prevent re-stenosis of cervix. The end of the catheter was shortened up to 2 cm beyond the cervix (Fig. 2). Adequate vaginal length of ~7 cm was created after the dissection. She was asked to insert glass mold of appropriate size till 6 weeks for vaginal re-epithelization to occur. Regular intercourse was advised after 6 weeks to

prevent vaginal re-stenosis, and the Malecot catheter was kept in the cervical canal. She was seen postoperatively about 4 weeks later when she resumed her normal menstrual flow. She was given prophylactic antibiotics during menstruation to reduce the chances of infection. After 3 months, she presented with amenorrhea for 5 weeks. Urine pregnancy test was found to be positive and pregnancy was confirmed with ultrasound. She was admitted and Malecot's catheter was then removed carefully without disturbing the intrauterine gestational sac under ultrasound guidance at 6 weeks of gestation (Fig. 2). The cervical length was monitored serially which was found to be normal. Her antenatal period was uneventful and she delivered a healthy baby of 3.2 kg by an elective full-term lower segment C.S.

Discussion

Stenosis of the cervix is characterized by a narrowing of the cervical canal, which prevents the insertion of 2.5-mm Hegar or Pratt dilator. Congenital stenosis may be due to cervical agenesis or dysgenesis, while acquired stenosis may be iatrogenic or may occur following any cervical trauma or infection or after menopause. It can be a result of loop electrosurgical excision, conization, cryoprocure, cervical malignancy, or any other cervical trauma. Congenital agenesis of uterine cervix is a rare mullerian anomaly that often presents with hematometra or pyometra leading to amenorrhea and cyclical abdominal pain. There was a study by Masami et al. which reported 2 cases of cervical stenosis as a result of loop excision procedure and conization. Both these cases had presented with hematometra and were managed successfully with cervical dilatation followed by the placement of Malecot catheter stent in uterus [1]. This case was different as our patient presented with cervical stenosis as a complication of delivery, and so far no such case has been reported in the review of literature. Our patient had no hematometra as she had history of scanty menses.

Various techniques have been described earlier to dilate a stenotic cervix. Luesely et al. have reported about the management of post-conization cervical stenosis by laser vaporization [2]. Shankar et al. used No. 11 blade knife to excise the stenosed and scarred cervical tissue [3]. Lunde et al. performed loop electrosurgical excision procedure (LEEP) during a surgical abortion to overcome a stenotic cervix [4]. In our case, in addition to cervical stenosis, there was vaginal scarring and stenosis at the apex hiding the cervix. Cervix could only be exposed after vaginal dissection followed by cervical dilatation and then placement of Malecot catheter in uterine cavity. It requires surgical expertise for transvaginal uterine cervical dilatation in such a

Fig. 1 **a** A pin-point opening at the apex of vagina; external os could not be discerned. **b** Vaginal dissection all around the cervical body. **c** Insertion of serial Hegar's dilator to dilate cervix. **d** End result with Malecot catheter in place

Fig. 2 **a** Single live intrauterine pregnancy of 6-week gestation with Malecot's catheter in situ. **b** Single live intrauterine fetus at 18 weeks of gestation

stenotic cervix as there is an associated risk of uterine perforation, bladder, or rectal injury. Electrocautery was not performed to avoid adhesion formation. Patency of cervical canal was maintained with the placement of silicon Malecot catheter. Although it was not our routine practice to place a stent after hysteroscopic adhesiolysis, in this case we decided to place silicon Malecot catheter as there was a complete distortion of cervical anatomy predisposing to an increased risk of re-stenosis. In earlier reported cases of cervical stenosis after conization, Malecot catheter was kept for a duration of more than a year [5]. In our case, we had planned to keep the Malecot catheter in situ for at least 6 months and

then start ovulation induction. But our patient got pregnant with Malecot catheter in situ 3 months after surgical procedure. It was removed at 6 weeks of gestation under ultrasound guidance and her pregnancy continued.

This case was also unique as the occurrence of spontaneous conception with the Malecot catheter inside uterus. Anthony et al. in 2012 have reported a pregnancy after surgical treatment of cervical stenosis following loop excision procedure of cervix. She underwent successful IVF transcervical embryo transfer technique. Pediatric catheter was removed after successful pregnancy was noted [5]. In a case series published from our institute assessing

the efficacy and functional outcome of laparoscopic-assisted utero-vaginal anastomosis in 14 patients of congenital cervical atresia, spontaneous conception was seen in 3 out of 5 women (60 %) [6]. Although the above-mentioned study was not quite similar to the present case, the silicon tube was kept as a stent in the uterine cavity. Theoretically, it seems unlikely to have pregnancy with a foreign body in uterus as seen with intrauterine contraceptive devices. Our case is peculiar as successful conception occurred with a Malecot catheter in uterine cavity.

Conclusion

Cervical stenosis as a result of trauma during child birth is rare and its management is challenging. The technique of cervical dilatation and reconstruction after exposure of cervix and placement of Malecot catheter in uterine cavity leading to spontaneous conception has been reported in this study.

Acknowledgments We acknowledge the colleagues who supported us while conducting this study.

Compliance with Ethical Standards

Conflict of interest and human rights The authors share no conflict of interest and there is no violation of human rights.

References

1. Masami H, Kyoka A, Azusa M, et al. Therapeutic approach for recurrent cervical stenosis after conization by placement of malecot catheter. *J Gynecol Surg.* 2012;28(1):26–30.
2. Luesley DM, Williams DR, Gee H, et al. Management of postconization cervical stenosis by laser vaporization. *Obstet Gynecol.* 1986;67:126–8.
3. Shankar A, Kassab A, Fox R. Knife entry into the uterine cavity; overcoming severe cervical stenosis at hysteroscopy. *J Obstet Gynecol.* 2007;27:868–9.
4. Lunde B, Paul M, Treszezamsky A, et al. Loop electrosurgical excision procedure to treat cervical stenosis at the time of surgical abortion. *Contraception.* 2010;81(1):86–7.
5. Anthony G, Nathan B. Successful pregnancy following treatment of cervical stenosis from a previous cervical loop excision. *J Gynecol Surg.* 2012;28(1):23–5.
6. Kriplani A, Kachhawa G, Awasthi D, et al. Laparoscopic-assisted uterovaginal anastomosis in congenital atresia of uterine cervix: follow-up study. *J Minim Invasive Gynecol.* 2012;19(4):477–84.