

CASE REPORT

Laparoscopic Suture Cervicopexy in Young Lady with Cervical Elongation

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ABSTRACT

Cervical elongation with apical prolapse in young women poses a surgical challenge when uterine preservation is required. We report a case of 25-years female, P1L1, with symptomatic cervical elongation. She underwent laparoscopic suture cervicopexy with plication of round ligaments and uterosacral ligaments and moschowitz procedure under general anaesthesia. This surgery had led to a good anatomical correction with satisfactory apical support and the uterus remained centrally positioned with resolution of prolapse symptoms.

Keywords: cervical elongation, suture cervicopexy, uterine preservation

INTRODUCTION

Cervical elongation refers to cervical length greater than 3.38cm with the incidence of 5-8% in young parous women.¹ The underlying etiopathogenesis could be obstetric trauma, multiparity, increased abdominal pressure, connective tissue disorders leading to decrease in mechanical strength of pelvic floor and predispose a woman to prolapse.^{2,3} Laparoscopic surgery is less invasive and highly effective due to easy access to pelvic support structures.³ Laparoscopic suture cervicopexy is a uterus preserving surgery done for cervical elongation in which cervix is suspended to pectineal ligament to restore normal uterine axis and vaginal support. This surgical technique is an evolving option in the management of cervical elongation with high success rate.⁴ We present a case of a 25-years female, P1L1, POP Q stage III with cervical elongation managed by laparoscopic uterus preserving technique.

CASE

A 25 years woman, P1L1, presented to our gynaecology

outpatient department 6 months back with history of something coming out per vagina following vaginal delivery 2 years back at local hospital. The symptoms worsened on coughing, prolonged standing and straining. There was no history of chronic constipation, instrumental delivery, heavy weight lifting and smoking. Her bowel and bladder habits were normal. Her menstrual cycles were regular with duration of 30 days and flow for 6 days. Her history doesn't suggest any connective tissue disorder like Ehlers- Danlos or Marfan syndrome. She had no any comorbidities and no any prior surgery.

The general condition of the patient was fair. Her vitals were stable. The patient was an average built with BMI of 21.66 kg/m². Her respiratory and cardiovascular examinations were normal. Her abdominal examination was not significant. On pelvic examination, in dorsal lithotomy position without straining, the cervix was visibly protruding beyond the introitus. Standard POP Q staging performed on valsalva points: Aa +1, Ba +2, C+6, D-1, Ap+1, Bp+1, GH7, PB 2, TVL 8. This confirmed

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the POP Q Stage III prolapse, primarily due to descended cervix. The vaginal mucosa was healthy and cervix appeared dry. Cervix was remarkably elongated measuring 8cm from external os to cervicovaginal junction with no discharge or ulceration noted. Uterus was anteverted, normal in size, shape and mobility. Her bilateral adnexa were clear and non-tender.

Routine preoperative investigations: blood group, complete blood count, prothrombin time, random blood sugar, renal function test, serology, urine routine and microscopic examination chest x-ray, electrocardiogram was done and it was within normal limits. Abdominal ultrasound was done and it showed 8×4×3 cm normal sized uterus with normal bilateral ovaries and regular endometrium. Pre-anaesthetic checkup was done and case was accepted for surgery. Patient was well counselled about the surgery and possible complications and informed consent was taken. Laparoscopic suspension surgery was planned.

This case was performed under general anaesthesia in supine position. WHO surgical check list ensured and surgical preparation was done. Uterine manipulator was placed. Four standard ports: one 10 mm supraumbilical primary port and three accessory 5 mm ports were placed. The first step was careful laparoscopic visualization and assessment of lax, thinned uterosacral and round ligaments and deepening of pouch of douglas. Then, the vesicouterine and rectouterine peritoneum was dissected to push down the bladder and rectum which exposed the cervix on anterior and posterior aspects. Bilateral ureters were identified. Uterosacral ligaments plication- shortening of both sides was performed which was anchored to posterior cervix with non-absorbable ethibond no.2 suture to prevent enterocele. The pectineal ligament was exposed bilaterally via paravesical space which lies between round ligament and medial umbilical ligament. A non-absorbable ethibond no. 2 suture was passed through the stroma of cervix and anchored to pectineal ligament of each side ensuring symmetrical, tension free uterine elevation. Both sutures were placed 1 cm apart. The lax and thinned round ligament of both sides were plicated with delayed absorbable vicryl no. 1 suture. Pouch of douglas was also deeper than normal. So, we performed moschcowitz procedure by

placing concentric purse-string around the cul-de-sac with vicryl no. 1. At the end, peritonization was done to bury the non-absorbable suture with vicryl no. 2-0.

At the end of surgery, standard POP Q staging performed: Aa -2.5, Ba -2.5, C-4.5, D-5, Ap-2, Bp-2, GH 5.5, PB 3, TVL 8 which showed the successful correction of prolapse and restoration of normal anatomy following surgery. Her postoperative period was uneventful. Vitals were stable. Foley catheter was removed after 24 hours, analgesic was continued. Patient was discharged on second postoperative day and followed up after 1 week at gynaecology OPD where we examined her and found to have no prolapse. Her wound was healthy. Her next follow up was done at 6 weeks then at 3 months. Again, standard POP Q staging was done which showed no prolapse.

DISCUSSION

In this case, the patient developed symptoms of vaginal bulge and dragging sensation following vaginal delivery. This suggests that the possible cause could be due postpartum weakening of apical support leading to cervical elongation since no connective tissue disorders were diagnosed prior. The type of surgery depends upon patient's age, degree of prolapse and need of fertility. This case describes the successful management of cervical elongation in young women by laparoscopic suspension surgeries which includes suture cervicopexy with plication of bilateral round ligaments and uterosacral ligaments and moschcowitz procedure.

According to the Cochrane review, laparoscopic sacrohysteropexy with mesh is the gold standard uterus preserving surgery for cervical elongation due to lower rate of recurrent prolapse and less incidence of dyspareunia. However, it is associated with life-threatening complication like mesh erosion, presacral venous plexus and iliac vessels injury.⁵ In contrast to this, laparoscopic suture cervicopexy avoids promontory dissection by anchoring the cervix to the pectineal ligament thereby reducing the risk of major vascular injury and eliminate mesh related concerns when performed using sutures alone. With alarming incidence of mesh erosion ranging from 0.8% to 0.9% and cost of mesh, the synthetic mesh has almost gone

out of the market.⁶ This has resulted in innovation of the present surgical technique which has no risk of mesh erosion, cost effective and better apical support.

Manchester (Fothergill) surgery has been used traditionally for cervical elongation in young women but it has high recurrence rate due to lack of apical support. Additionally, cervical amputation is associated with cervical stenosis or incompetence leading to adverse obstetric outcome.^{7,8} Laparoscopic suture cervicopexy restores the apical support by suspending the cervix to pectineal ligament. This anatomical restoration offers superior durability, preserves uterine and vaginal anatomy and avoid cervical amputation making laparoscopic cervicopexy a more physiological and effective uterus preserving surgery in young women.

Laparoscopy provides excellent visualization of pelvic organs and revealed bilateral laxity of round ligaments. Hence, round ligaments plication was performed to enhance uterine support.

Laparoscopic uterosacral ligament plication is performed by placing purse string suture from uterosacral ligaments to posterior cervix.⁹ Laparoscopic suture cervicopexy with uterosacral ligament reinforcement provides comprehensive anterior and posterior apical support offering a safe, uterus preserving surgery for cervical elongation with excellent outcomes.

CONCLUSION

Laparoscopic suture cervicopexy is feasible even in our set up. It is safe and effective fertility preserving surgery for the management of cervical elongation in young woman. It offers excellent anatomical and functional outcomes with no risk of mesh erosion. Long term follow up is essential to monitor anatomical, functional and reproductive outcome.

REFERENCES

1. Rani V, Pipal DK. Extremely Elongated Cervix in an Adolescent Girl: Literature Review and Report of a Rare Case. *Cureus*. 2022 Apr 15;14(4). DOI: 10.7759/cureus.24168
2. Vora AV. Pelvic Organ Prolapse in Young Women: A Topical Issue. *Journal of SAFOMS*. 2019 Dec 1;7(2):77-81. DOI: 10.5005/jp-journals-10032-1189
3. Malanowska E, Soltis M, Starczewski A, Petri E, Jozwik M. Laparoscopic approach to pelvic organ prolapse—the way to go or a blind alley? *Videosurgery and Other Miniinvasive Techniques*. *Journal* 2019 Nov4;14(4):469-75. DOI: <https://doi.org/10.5114/wiitm.2019.88749>
4. El-Saman AM, Abbas AM, Amin AF, Fetih AN, Bahloul M, Salem MN et al. Laparoscopic cervicopexy: a novel minimally invasive fertility conservative procedure for stages III and IV uterine prolapse—case series. *Journal of Clinical Urology*. 2017 Sep;10(5):416-22. DOI: 10.1177/2051415816686791
5. Paolo C, Alessandro A, Salucci P, Diego R, Renato S. Laparoscopic cervicopexy for correction of apical genital prolapse in 10 steps: a pilot study. *International Urogynecology Journal*. 2021 May;32(5):1313-6. <https://doi.org/10.1007/s00192-020-04536-6>
6. Sharma JC, Sarkar A, Choudhary N, Chandra R, Anupma A, Munda G, et al. Laparoscopic sacrocervicopexy using ethibond suture graft: A very economic yet effective fertility preserving surgery for pelvic organ prolapse. *Cureus*. 2022 Dec 29;14(12). DOI:10.7759/cureus.33086
7. Maher CF, Carey MP, Murray CJ. Laparoscopic suture hysteropexy for uterine prolapse. *Obstet Gynecol*. 2001 Jun;97(6):1010–1014. [https://doi.org/10.1016/S0029-7844\(01\)01376-X](https://doi.org/10.1016/S0029-7844(01)01376-X)
8. Geoffrion R, Louie K, Hyakutake MT, Koenig NA, Lee T, Filipenko JD. Study of prolapse-induced cervical elongation. *Journal of Obstetrics and Gynaecology Canada*. 2016 Mar 1;38(3):265-9. <https://doi.org/10.1016/j.jogc.2016.01.008>
9. Aliyar A, Palakkan S, Vahab A, Mumtaz P. Laparoscopic cervicopexy in uterine prolapse: a prospective study. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2019 Sep 1;8(9):3492-7. DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20193633>