CASE REPORT

Augmented Manchester Procedure with Right Sacrospinous Fixation in a young woman

Kenusha Devi Tiwari[1], Ranjana Shrestha[1], Ganesh Dangal[1], Hema Pradhan[1], Kabin Bhattachan[1], Sadhana Shah[1]

ABSTRACT

Severe cervical elongation in young multiparous women is a rare cause of pelvic organ prolapse. Achieving durable apical support while preserving the uterus presents a surgical challenge. A 26-year-old unmarried nullipara with 12 years history of pelvic organ prolapse with cervical elongation of 9cm. She underwent Manchester procedure combined with Right sacrospinous ligament fixation of the neo cervix under anesthesia. This combined approach addressed the anatomical defect and provided robust apical suspension. This case demonstrated the feasibility and rationale for this combined approach in a medically complex patient.

Keywords: Cervical elongation, Manchester procedure, Pelvic organ prolapse, sacrospinous fixation, young

INTRODUCTION

Uterovaginal prolapse is a common condition, but its presentation in adolescents and young nulliparous women is rare, accounting for less than 2%.[1] It is often associated with congenital connective tissue disorders, neuromuscular disease or isolated cervical elongation.[2] Cervical elongation is characterized by an increase in length of cervix with relative preservation of uterine body. Patients usually present with complaint of vaginal bulge, dyspareunia, bladder bowel symptoms. Manchester Procedure principles include amputation of elongated cervix, plication of the cardinal and uterosacral ligaments, anterior and posterior colporrhaphy.[3] It is the fertility- sparing procedure with potential risk of cervical stenosis, miscarriage and preterm labor.[4]

We present here the detailed case of a 26-year-old, unmarried nullipara with long standing cervical elongation and POP Q stage III prolapse. This case highlights the diagnostic journey, surgical decision-making process favoring a uterus preserving approach.

CASE

26-year Nepalese women, unmarried, nulligravida presented to our gynecology outpatient clinic with the complaint of something coming out of the vagina since age of 14. The protrusion was not reducible and caused persistent discomfort. She had concomitant sense of incomplete bladder emptying but denied stress or urge incontinence, fecal incontinence or obstructive defecation. A trial of ring pessary had been attempted in the past but provided inadequate relief and was associated with discomfort. Her menstrual cycles were regular(30 days cycle with 5 days flow). She doesn't have history of chronic cough, constipation

[1]Department of Obstetrics and Gynaecology, Kathmandu Model Hospital Institute of Health Sciences, Kathmandu

Corresponding author:

Dr Kenusha Devi Tiwari, Kathmandu Model Hospital, Email: kenushadevitiwari@gmail.com, Phone: +9779860937294

or heavy lifting, or trauma. Notably, she has undergone open heart surgery for secundum atrial septal defect closure 3 years ago with uneventful recovery and no current cardiac symptoms. Her history doesn't suggest any connective tissue disorder like Ehlers- Danlos or Marfan syndrome.

The patient was comfortable. Vital signs were stable . Patient was short stature and thin built with BMI of 17.4kg/m^2. Cardiovascular examination revealed a well healed median sternotomy scar with normal heart sounds, no murmur. Respiratory and abdominal examinations were unremarkable. In pelvic examination in dorsal lithotomy position without straining, the cervix was visibly protruding beyond the introitus. POP Q staging performed on Valsalva points: Aa +1, Ba +2, C+6, D0, Ap-2, Bp-2, GH4, PB 3. This confirmed the POP Q Stage III prolapse, primarily due to descended cervix (Figure 1)

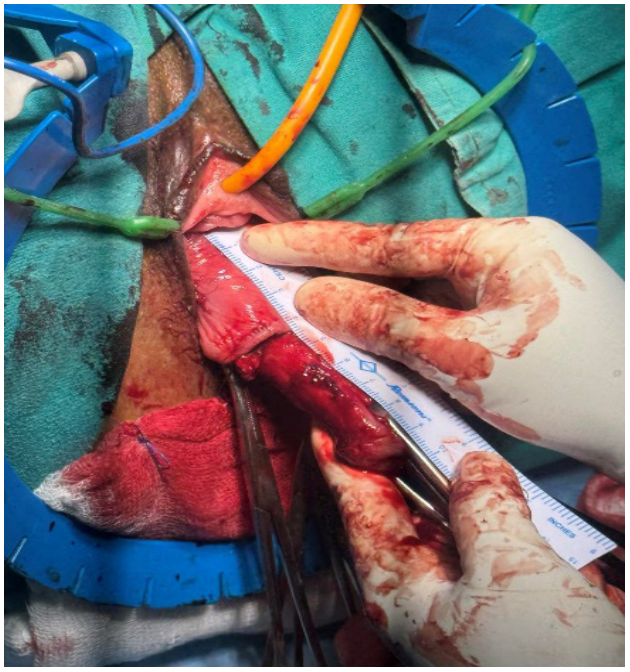

Figure 1: Intra operative picture showing the cervical length

The vaginal mucosa was healthy. The cervix appeared dry with peeled mucosal layer due to constant friction with undergarments. It was remarkably elongated measuring 8-9cm from external os to cervicovaginal junction. No ulceration and discharge noted. Uterus was anteverted, normal in size, shape and mobility. The adnexa were nontender and fornices were clear. The elongated cervix was easily reducible into the vaginal canal.

Abdominal ultrasound was done, it showed 7x4x3cm normal sized uterus with regular endometrium and normal bilateral ovaries. No pelvic mass or free fluid noted.

A multidisciplinary team was involved. Cardiologists reviewed the case, transthoracic echocardiogram was performed which showed normal biventricular function , no residual shunt and competent valves were noted. Routine preoperative blood tests were done, all within normal limits. Case was reviewed by urogynecologist. Due to severity of duration of symptoms, failure of conservative management and patients desire for definitive treatment with need for apical support, Fothergill's operation with right sacrospinous ligament fixation of neo cervix was planned.

Surgical steps

Spinal anesthesia was chosen to minimize cardiac and pulmonary stress. Patient was placed in lithotomy position using allens stirrups. WHO surgical check list ensured and surgical preparation was done. Hydro dissection of vaginal mucosa done. Dilatation and curettage of uterine cavity performed. A circumferential incision was made at the cervicovaginal junction. The vaginal mucosa was dissected bladder reflected, posterior vaginal mucosa dissected exposing the elongated cervix and cardinal ligament. The elongated cervix measuring 9 cm was confirmed. The cardinal ligament was clamped, cut and ligated bilaterally at the attachment to the cervix in two steps. The excess cervix was amputated at 6cm from external OS making a new external OS. Fothergill's stich applied to anterior lip of cervix and stumdorf on posterior lip of cervix. Vaginal mucosa was closed circumferentially making neo-cervix (Figure 2). Anterior vaginal wall was cut and dissected exposing the pubocervical fascia. Plication of pubocervical fascia done and vagina was closed. Posterior vaginal wall cut and laterally dissected towards pararectal space, superior to levator ani muscle reaching the ischial spine on the right side. Medial dissection done clearing the sacrospinous ligament. Long term absorbable polydioxanone 1 suture was applied to sacrospinous ligament 2 cm medial to ischial

spine with the help of aneurysm needle. 2 stitches applied to the sacrospinous ligament 1 cm apart. This prevents neurovascular injury and rectum injury. The ends of the sacrospinous ligament suture were applied to the posterior aspect of neo cervix. The sutures were tied securely suspending the neo cervix towards the sacrospinous ligament. Rectovaginal fascia was plicated and vaginal mucosa closed. This step effectively transposes the vaginal axis horizontally towards the sacrum, providing robust level 1 support. Firm packing of vagina done with betadine-soaked ribbon gauge.

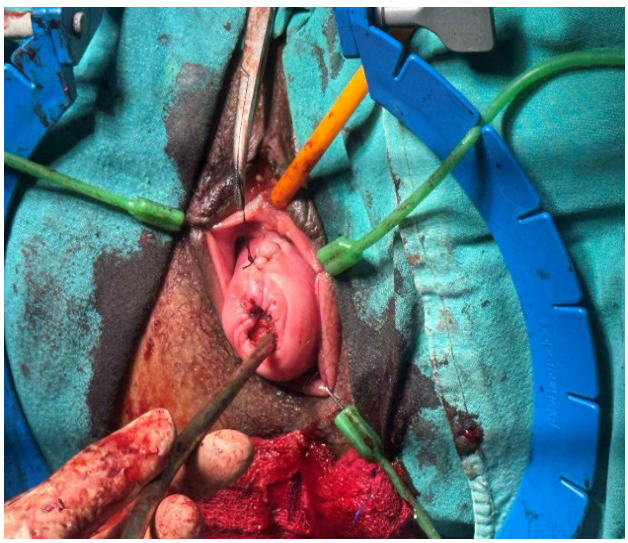

Figure 2: Neo cervix after amputation intra operative

The patient recovered well in the post-operative period. Vital signs were stable. Vaginal pack and foley catheter was removed after 48 hours, oral antibiotics, analgesics continued and stool softener added. Patient was discharged on 3rd postoperative day. Patient was followed up after 1 week at gynecology OPD to check wound. Next follow up was done at 6 weeks. Patient had attended menstruation with normal flow. She was followed up again at 3 months to check for cervix and its support. POP Q quantification was again checked confirming no prolapse.

DISCUSSION

The onset of symptoms at puberty suggests a congenital or developmental etiology. While no formal connective tissue disorder was diagnosed, the finding of an isolated 9cm cervical elongation points towards a possible defect in the fibromuscular composition of the cervix or its supporting parametrial ligaments. This defers from the more common acquired prolapse seen in multiparous, postmenopausal women.

The definitive treatment of prolapse is hysterectomy with vault suspension procedure, however for these young nulliparous women, hysterectomy eliminates future fertility. Hence Manchester operation was the ideal procedure. It directly addressed the pathological anatomy of elongated cervix while preserving the uterus for childbearing. The success of Manchester procedure hinges on a proper ligament plication and creation of competent well supported neo-cervix via good central support via cardinal ligament plication. However, this procedure doesn't reduce the risk of recurrent apical prolapse.[5]The RSSF technique is a critical modification that ensures the neo-cervix is securely anchored reducing the risk of recurrent descent. It addresses the defect in level 1 support.[6] This case exemplifies an evolved surgical strategy for complex prolapse in young patients. Performing RSSF on neo-cervix rather than a vaginal vault post- hysterectomy requires careful suture placement to ensure secure fixation without compromising cervical integrity. The sutures must be placed in the substantial fibromuscular tissue of the cervix and posterior paracervical ring. The choice of right side is standard to avoid the sigmoid colon on the left, though left-sided or bilateral fixations are also described. [7,8]

This combined procedure introduces specific considerations. The RSSF alters vaginal axis and potentially reduces vaginal length. Future consideration for this patient includes the need for careful surveillance during any future pregnancy. She will be at an increased though manageable risk for cervical incompetence, preterm birth.[9,10] Vaginal delivery is not necessarily contraindicated but the altered anatomy and presence of suspending suture may influence the mode of delivery with potential need for cesarean delivery to preserve surgical results and avoid intrapartum complications.[10] Preconceptional counselling will be paramount.

CONCLUSION

This detailed case report illustrates that severe cervical elongation can manifest early in life as

the primary cause of pelvic organ prolapse. The Manchester procedure focus in reconstructing and supporting the cervix, is a highly effective and fertility preserving surgical solution. Hybrid approach of Right sacrospinous fixation along with Manchester procedure is highly effective and rational strategy. It addresses both the specific anatomical defect and the underlying deficiency of apical support. Long term follow up is essential to monitor anatomical success, functional outcome and reproductive health.

REFERENCES

1. Rosenberg D. Pelvic organ prolapse in young women: a review of the literature. Int Urogynecol J. 2021;32(4):785-793. doi:10.1007/s00192-020-04543-7
2. Weber AM, Richter HE. Pelvic organ prolapse. Lancet. 2005;366(9484):1027-1038. PMID: 16135597 DOI: 10.1097/01.AOG.0000175832.13266.bb
3. Fothergill WE. An operation for prolapse with conservation of the uterus. J Obstet Gynaecol Br Emp. 1915;28:3-7.
4. Gutman RE, et al. The Manchester procedure for uterine prolapse: an assessment of long-term outcomes. Int Urogynecol J Pelvic Floor Dysfunct. 2008;19(6):831-835. DOI: 10.1007/s00192-007-0532-4
5. Wei JT, Nygaard I. The role of apical support in vaginal vault prolapse. N Engl J Med. 2012;366(24):2356-2357. DOI: 10.1056/NEJMc1204287
6. Nichols DH, Randall CL. Sacrospinous ligament fixation for massive eversion of the vagina. Am J Obstet Gynecol. 1982;142(7):901-904. DOI: 10.1016/0002-9378(82)90783-3
7. Dietz V, Huisman M, de Jong JM, et al. Functional outcome after sacrospinous hysteropexy for uterine descensus. Int Urogynecol J. 2008;19(6):747-752 DOI: 10.1007/s00192-007-0517-3
8. Sze EH, Karram MM. Transvaginal repair of vault prolapse: a review. Obstet Gynecol. 1997;89(3):466-475. DOI: 10.1016/S0029-7844(96)00515-0
9. Liang CC, Chang SD, Wong SY, et al. Pregnancy outcome following uterine-sparing surgery for uterovaginal prolapse. Acta Obstet Gynecol Scand. 2010;89(11):1414-1418. DOI: 10.3109/00016349.2010.512066
10. Bovbjerg ML, Handa VL. The role of childbirth in the aetiology of pelvic organ prolapse. In: Childbirth and Pelvic Floor Disorders. Springer, 2005: 45-60. DOI: 10.1007/978-0-387-23905-2_5