VOLUME - 13, ISSUE - 08, AUGUST - 2024 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper | Obstetrics & Gynaecology

LAPAROSCOPIC VAGINOPLASTY PROCEDURE USING A MODIFIED PERITONEAL PULL-DOWN TECHNIQUE WITH UTERINE BUD FLAP IN PATIENTS WITH MAYER–ROKITANSKY–KÜSTER–HAUSER SYNDROME.

Dr. Paulomi Patel*	Postgraduate Student, Department Of Obstetrics And Gynaecology, Maharashtra Institute Of Medical Sciences & Research, Latur, Maharastra, India. *Corresponding Author
Dr. Kranti Kendre	Head, Department Of Obstetrics And Gynaecology, Maharashtra Institute Of Medical Sciences & Research, Latur, Maharastra, India.
Dr. Krishna Mandade	Assistant Professor, Department of Obstetrics and Gynaecology, Maharashtra Institute of Medical Sciences & Research, Latur, Maharastra, India.

KEYWORDS :

INTRODUCTION

Mayer–Rokitansky–Küster–Hauser (MRKH) syndrome is a congenital malformation characterized by the defective development of the Müllerian ducts resulting in the absence of a functional vagina and uterus in the presence of normally functioning ovaries. [1] As a result, conception and vaginal sexual activity are compromised. In patients with MRKH syndrome, the creation of a neovagina allows for satisfactory sexual intercourse, and uterus transplantation (UTx) can allow patients with MRKH syndrome to give birth. [2] Several surgical and nonsurgical techniques for creating an adequately sized and functional neovagina to allow for sexual intercourse have been developed for patients with MRKH syndrome. [3],[4] However, the surgical method with the best anatomical and functional outcomes is controversial due to a lack of comparative studies. In addition, various materials have been used to cover the newly created space. The laparoscopic Davydov procedure is one of the most commonly used techniques, in which multiple complications have been observed.[5,6] Therefore, various modified laparoscopic procedures have been developed.[7,8,9] In this report, we describe a novel laparoscopic vaginoplasty procedure, using a pull-down technique of the peritoneal flaps with additional structural support to the neovaginal apex using the incised uterine bud in patients with MRKH syndrome and report the anatomical and functional outcomes of our case series. [10]

AIM

To create a modified technique with least possible complications in a patient undergoing vaginoplasty

OBJECTIVES

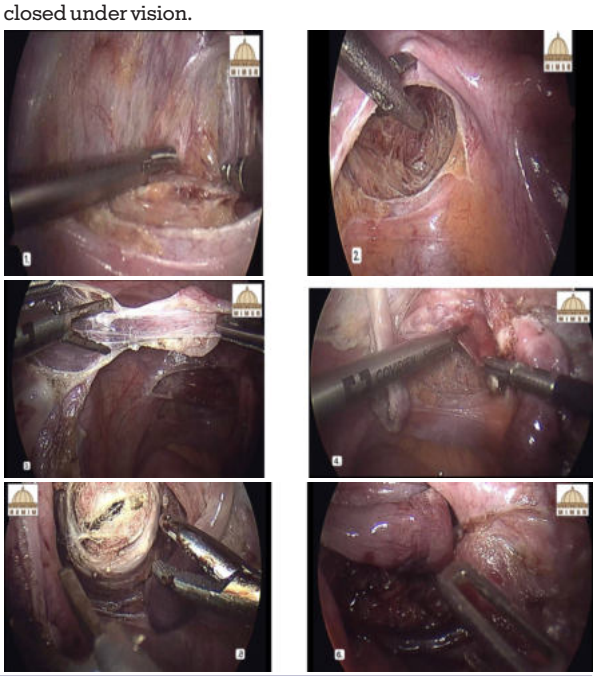
To facilitate a neovagina in patients of MRKH syndrome and report its anatomical and functional outcomes.

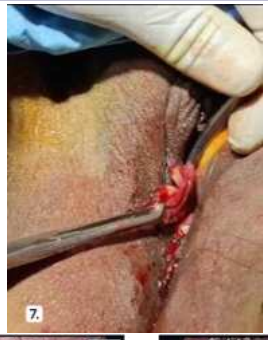
MATERIAL AND METHODOLOGY

Ten patients with MRKH syndrome underwent neovaginal construction via laparoscopic vaginoplasty at our tertiary hospital. The study was approved by the Institution and informed consent was obtained from all patients and/or their parents. All patients with primary amenorrhea underwent pelvic and abdominal ultrasonography, pelvic magnetic resonance imaging, hormonal profiling, and karyotyping to confirm the diagnosis of MRKH syndrome. The patients were counseled regarding the available management options, including surgical and nonsurgical techniques, and patients who chose to undergo a surgical procedure were enrolled in this study.

SURGICAL PROCEDURE

Written and well informed consent taken and confirmed, Under all aseptic precautions, General Anesthesia was given. Patient is given Lithotomy position. Standard 4 port position with 10mm supra umbilical optic port. Pneumoperitoneum was achieved and abdominal cavity was visualised. Sharp & Blunt dissection done in the peritoneal space, Anteriorly in the space of vescicovaginal area. First the uterovescical pouch is separated and bladder is pushed down. Posteriorly the dissection is done in the Denonviller's fascia in the plane of rectum. Rectum seperated down achieving RV space. Fallopian tubes are cut and removed. Dissection space is created for neo vagina from the vaginal end using a small nick given at the site of dimpling of membrane at the Vaginal orifice. 18no. Heggar's dialator is inserted to create space, approximately 3 cms wide space is created. The uterine bud is dissected in the vertical plane centrally, making it free for flap in vagina keeping the blood supply from bilateral uterine arteries intact. The dissected site of uterine bud is nicked to convert it into a flap. The uterine bud flap along with the peritoneal flap brought down at Vaginal orifice, and sutured from all sides. Then, Purse string sutures are taken intra abdominally through parietal peritoneum of anterior and lateral pelvic walls and fascia of denonviller's to close the Vault of the new canal and separate it from proper peritoneal cavity. A 10 cms long and 2 fingers wide Vaginal Cavity is made, the patient and Her Partner are counselled to used the dilator regularly twice a day for one and half months to avoid stenosis or contracture. Hemostasis confirmed and all ports closed under vision.





RESULTS AND CONCLUSION

These patients showed no associated anomalies, including those of the urinary, skeletal and recto-anal systems. The mean patient age at surgery was 23+/- 2 years, and the mean postoperative follow-up period was 18 months. All patients had normally developed external genitalia, bilateral rudimentary uteri, a uterine strand, and normally developed ovaries and Fallopian tubes. All surgeries were performed successfully without complications. The mean neovaginal length at discharge was 10 ± 0.5 cm. Anatomical success was achieved in all patients, as two fingers were easily introduced, the neovagina was epithelialized, and the mean neovaginal length was 10 ± 1.0 cm at 1 year postoperatively. No obliteration or granulation tissue formation of the neovaginal apex or neovaginal prolapse was recorded.

REFERENCES

1. Timmreck LS, Reindollar RH. Contemporary issues in primary amenorrhea. Obstet Gynecol Clin N Am. 2003;30:287-302.
2. Brännström M., Johannesson L., Bokström H., Kvarnström N., Mölne J., Dahm-Kähler P., Enskog A., Milenkovic M., Ekberg J., Diaz-Garcia C., et al. Livebirth after uterus transplantation. Lancet. 2015;385:607–616. doi: 10.1016/S0140-6736(14)61728-1.
3. Callens N., De Cuypere G., De Sutter P., Monstrey S., Weyers S., Hoebeke P., Cools M. An update on surgical and non-surgical treatments for vaginal hypoplasia. Hum. Reprod. Update. 2014;20:775–801. doi: 10.1093/humupd/dmu024. [PubMed] [CrossRef] [Google Scholar]
4. Cheikhelard A., Bidet M., Baptiste A., Viaud M., Fagot C., Khen-Dunlop N., Louis-Sylvestre C., Sarnacki S., Touraine P., Elie C., et al. Surgery is not superior to dilation for the management of vaginal agenesis in Mayer-Rokitansky-Küster-Hauser syndrome: A multicenter comparative observational study in 131 patients. Am. J. Obstet. Gynecol. 2018;219:281.e1–281.e9. doi: 10.1016/j.ajog.2018.07.015. [PubMed] [CrossRef] [Google Scholar]
5. Willemsen W.N., Kluivers K.B. Long-term results of vaginal construction with the use of Frank dilation and a peritoneal graft (Davydov procedure) in patients with Mayer-Rokitansky-Küster syndrome. Fertil Steril. 2015;103:220–227.e1. doi: 10.1016/j.fertnstert.2014.10.014. [PubMed] [CrossRef] [Google Scholar]
6. Zhao X., Wang R., Wang Y., Li L., Zhang H., Kang S. Comparison of two laparoscopic peritoneal vaginoplasty techniques in patients with Mayer-Rokitansky-Küster-Hauser syndrome. Int. Urogynecol. J. 2015;26:1201–1207. doi: 10.1007/s00192-015-2675-z. [PubMed] [CrossRef] [Google Scholar]
7. Kisu I., Ito M., Nakamura K., Shiraishi T., Iijima T., Senba H., Matsuda K., Hirao N. New Laparoscopic Vaginoplasty Procedure With a Modified Peritoneal Pull-Down Technique in Four Patients with Mayer-Rokitansky-Küster-Hauser Syndrome. J. Pediatr. Adolesc. Gynecol. 2021;34:569–572. doi: 10.1016/j.jpag.2021.02.099.[PubMed] [CrossRef] [Google Scholar]
8. Fedele L., Frontino G., Restelli E., Ciappina N., Motta F., Bianchi S. Creation of a neovagina by Davydov's laparoscopic modified technique in patients with Rokitansky syndrome. Am. J. Obstet. Gynecol. 2010;202:33.e1–33.e6. doi: 10.1016/j.ajog.2009.08.035. [PubMed] [CrossRef] [Google Scholar]
9. Committee on Adolescent Health Care ACOG Committee Opinion No. 728: Mullerian Agenesis: Diagnosis, Management, And Treatment. Obstet. Gynecol. 2018;131:e35–e42. doi: 10.1097/AOG.0000000000002458. [PubMed] [CrossRef] [Google Scholar]
10. Soong Y.K., Chang F.H., Lai Y.M., Lee C.L., Chou H.H. Results of modified laparoscopically assisted neovaginoplasty in 18 patients with congenital absence of vagina. Hum. Reprod. 1996;11:200–203. doi: 10.1093/oxfordjournals.humrep.a019019