



## MAYER-ROKITANSKY-KUSTER-HAUSER SYNDROME : QUALITY OF LIFE POST MCINDOE TECHNIQUE

<b>Dr Aditya Mehta*</b>	Junior resident, Department of Plastic surgery, Kota *Corresponding Author
<b>Dr Nirmal Kumar Gupta</b>	Associate Professor and Head Department of Plastic Surgery, Govt Medical college, Kota
<b>Dr Somya Thakan</b>	Private Health Researcher , Jaipur
<b>Dr Manish Neerad</b>	Junior Resident, Department of Plastic surgery, Kota
<b>Dr Mohamed Aashid Azad</b>	Junior Resident, Department of Plastic surgery, Kota

### ABSTRACT

**Background:** Mayer-Rokitansky-Kuster-Hauser syndrome or Vaginal agenesis is a congenital anomaly that affects the development of the vagina. In a complete form of the disorder, there is essentially no vagina at all. This leaves women without the ability to have sexual intercourse or any reproductive functions. The main objective of this study is to evaluate quality of life, sexual function, and long term outcome in women after undergoing McIndoe procedure. **Methodology:** This study was conducted on 15 patients aged 18-35 years underwent modified McIndoe vaginoplasty over a period of 5 years (2016-2022). All got registered at our OPD clinic with chief complaints of primary amenorrhoea, normal secondary sexual characteristics and vaginal dimple without vaginal orifice. **Results:** Only 15 of the 28 study participants were followed up with, and their detailed preoperative findings are shown in Table 1. Only two of the 15 patients had abnormal genitalia, and two of them had clitoromegaly with AIS. Additional procedures were performed on these patients to correct the abnormality. The vagina was completely absent in three patients, and the average length of the vagina was only 2-6 cm **Conclusion:** Clinical management of women with vaginal agenesis must be multidisciplinary and individually customised to optimise sexual comfort and enhanced quality of life post surgical intervention.

**KEYWORDS :** Vaginal agenesis, Mc Indoe operation, vaginoplasty, Quality of life

### INTRODUCTION

Mayer-Rokitansky-Kuster-Hauser syndrome or Vaginal Aggenesis is a congenital anomaly that affects the development of the vagina. This disorder occurs when the vagina doesn't form normally during foetal development. As a result, the vagina may be absent or significantly reduced in size. The condition is also called vaginectomy, vaginal atresia, or imperforate hymen.

#### There are two types of vaginal agenesis:

complete and incomplete. The complete form of this disorder occurs when the vagina is completely absent. With an incomplete form of the disorder, some part of the vagina may still be present. However, it may not be large enough to lead to normal sexual function. In most cases, this condition is diagnosed during the first few hours of life when a doctor can observe the baby's genitals through a vaginal exam. In some cases, the condition may not be diagnosed until the child is older because the symptoms may go unnoticed until a puberty examination is performed. In other cases, the condition may not be diagnosed until adulthood because ultrasounds during pregnancy are rarely done.

In a complete form of the disorder, there is essentially no vagina at all. This leaves women without the ability to have sexual intercourse or any reproductive functions. We discovered a gap in the literature on postoperative quality of life after reviewing multiple articles on the subject. So we are conducting this study to investigate this different aspect.

#### Rationale:

The main objective of this study is to evaluate quality of life, sexual function, and long term outcome in women after undergoing McIndoe procedure.

#### Methodology

This study was conducted on 15 patients aged 18-35 years (mean age 29 years) underwent modified McIndoe

vaginoplasty over a period of 5 years (2016-2022). Initially, 28 patients with a confirmed diagnosis of vaginal agenesis were admitted to various gynaecology units at our medical college before being transferred to surgical units for vaginal reconstruction. Only 15 could be followed up on over the course of seven years, as an additional 13 were lost to follow-up for various reasons after the initial stage of investigations (LAMA, migration, patient refusal). Inclusion criteria for this study were those females who had true /complete vaginal agenesis. Those who had short vagina were excluded out. All got registered at our OPD clinic with chief complaints of primary amenorrhoea, normal secondary sexual characteristics and vaginal dimple without vaginal orifice. Cases were followed up on for 1-3.5 years after surgery. During the preoperative evaluation, all Cases underwent clinical examination, pelvic ultrasonography, vaginometry, karyotyping, and MR.

#### Pre and Intra operative Procedures

Before the operation, all participants provided written informed consent. The procedure was carried out in the lithotomy position and under general anaesthesia. In all cases, the modified McIndoe technique was used. A transverse incision was made on the blind vagina between the bladder and the rectum.

By creating a cavity up to the peritoneal level (Douglas pouch) and dissecting 8-10 cm deep. Bilaterally, split thickness skin grafts were obtained. The skin graft was then placed on a mould and sutured to the vaginal apex so that the dermal side was in contact with the mould. The mould was then sutured into the vaginal wall cavity (covered with skin graft). Absolute bed rest was ordered for the patients. For seven days, a special diet was prescribed. Povidone-iodine and saline dressing were applied after the prosthesis was removed.

Patients were released after being warned not to remove the moulds (dilatator) given to them for three months, with the

exception of toilet and bathing needs, in order to prevent vaginal contraction.

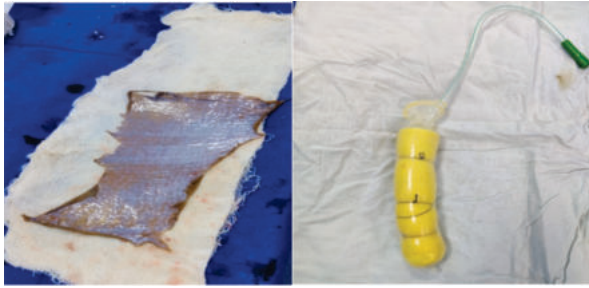


Fig 2



Fig 3

Images fig: 1. harvested Split thickness skin Graft  
 2. tampon made up of sponge and condom  
 3. graft attached to the tampon

**Post Operative Follow up Procedures**

Patients were permitted to engage in sexual activities. After three months, patients were allowed to engage in sexual activity. During the first month, all patients were monitored weekly, and then monthly. Patients were advised to replace the mould in the vagina after washing with soap and applying estrogenic cream to remove it. They were then advised to only use the dilator at night for three months. If the patient was married, regular sexual intercourse was advised six months after the surgery. If she was single, she should use a dilator for one hour three times a week.

**RESULTS**

Only 15 of the 28 study participants were followed up with, and their detailed preoperative findings are shown in Table 1. Only two of the 15 patients had abnormal genitalia, and two of them had clitoromegaly with AIS. Additional procedures were performed on these patients to correct the abnormality. The vagina was completely absent in three patients, and the average length of the vagina was only 2-6 cm.

S.No	Physical Features	No. Of Patients
1	Vaginal Aplasia	
	Total	12
	Partial	3
2	External Genitalia	
	Normal	13
	Clitoromegaly	2
3	Uterus & Fallopian Tubes	
	Normal	1
	Absent	14
4	Ovaries	
	Normal	14
	Abnormal	1

The pre and post operative findings are summarised in Table 2. The average period of follow up was 71 months (ranges 9- 87 months). The post operative range of vagina was 7- 12 cm.

Despite regularly using the mould, two of the patients required a repeat surgery within six months due to a partial vaginal stricture. During the follow-up, no other complications were observed, such as haemorrhages, infections, a cheloid scar on the donor site, or fistulas.

Vaginal length	
7-9 cm	10
10-12 cm	5
Moulds used	
3 months	3
4-6 months	5
> 6 months	7
Frequency of using mould	
Irregular	5
Regular	10
Repeat Surgery Required	
Required	2
Not Required	13
Sexual Activity	
No Discomfort	9
Mild pain during activity	3
Severe Pain	3
Complications	
Partial stricture	2
Cheloid scar	1
Fistula	0
None	12

**DISCUSSION**

There are several techniques for treating vaginal agenesis, the patient's medical history, preferences, lifestyle, and underlying condition, as well as the surgeon's capabilities, all play a role in determining the best approach. Although there is no agreement on which technique to use, many clinicians prefer the modified McIndoe method. We chose it because of its low complexity rate and relative ease of use. Furthermore, the McIndoe technique does not necessitate a trans-abdominal approach, which reduces surgical risk. It does, however, have drawbacks, such as scarring in the grafted area, cheloid formation, and infection risk. To create the neovagina, the Vechietti technique requires traction rather than dilation. Although it is typically performed laparoscopically, the complication rate is high due to the potential need for a laparotomy. Furthermore, traction of the 'olive' at the vaginal dimple can be extremely painful and may be difficult for the patient to tolerate (5,11,12).

Fedele et al. (13) and Bruker et al. (14) used the Vechietti technique in 110 and 101 patients, respectively. Vaginal length achieved was well within limits, and nearly 60% of patients engaged in sexual intercourse without dyspareunia. The sexual satisfaction rate reported in the literature when using the McIndoe technique (15,16) is approximately 80% to 90%, which is higher than the previously mentioned rate achieved with Vechietti. The sexual satisfaction rate in our case series was approximately 89%.

**CONCLUSION**

Clinical management of women with vaginal agenesis must be multidisciplinary and individually customised to optimise sexual comfort and enhanced quality of life post surgical intervention. Our findings indicate that the modified McIndoe technique is a simple, effective procedure for treating vaginal agenesis, but proper mould usage after surgery remains critical. More research is needed to evaluate the clinical success of various surgical techniques in the future.

**Funding:** No funding sources

**Conflict of interest:** None declared

**Ethical approval:** The study was approved by the Institutional Ethics Committee

## REFERENCES

1. Karim RB, Hage JJ, Dekker JJ, Schoot CM. Evolution of the methods of neovaginoplasty for vaginal aplasia. *Eur J Obstet Gynecol Reproduct Biol* 1995;58:19-27.
2. Busacca M, Perino A, Venezia R. Laparoscopic-ultrasonographic combined technique for the creation of a neovagina in MayerRokitansky-Kuster-Hauser syndrome. *Fertil Steril* 1996;66:1039-41.
3. Vecchietti G. [The neovagina in the Robitansky-Kuster-Hauser syndrome]. *Revue medicale de la Suisse romande*. 1979;99:593-601.
4. Laffargue F, Giacalone PL, Boulot P, Vigouroux B, Hedon B, Benos P. A laparoscopic procedure for the treatment of vaginal aplasia. *Br J Obstet Gynaecol* 1995;102:565-7.
5. Veronikis DK, McClure GB, Nichols DH. The Vecchietti operation for constructing a neovagina: Indications, instrumentation, and techniques. *Obstet Gynecol* 1997;90:301-4.
6. Davydov SN, Zhvitiashvili OD. Formation of vagina (colpopoiesis) from peritoneum of Douglas pouch. *Acta Chirurgiae Plasticae*. 1974;16:35-41.
7. McIndoe A. The treatment of congenital absence and obliterative conditions of the vagina. *Br J Plast Surg* 1950;2:254-67.
8. Williams JK, Lake M, Ingram JM. The bicycle seat stool in the treatment of vaginal agenesis and stenosis. *J Obstet Gynecol Neonatal Nurs* 1985; 14:14750.
9. Banister JB, McIndoe AH. Congenital Absence of the Vagina, treated by Means of an Indwelling Skin-Graft. *Proc Royal Soc Med* 1938;31:1055-6.
10. Pratt JH. Vaginal atresia corrected by use of small and large bowel. *Clin Obstet Gynecol* 1972;15:639-49.
11. Makinoda S, Nishiya M, Sogame M, et al. Non-grafting method of vaginal construction for patients of vaginal agenesis without functioning uterus (Mayer-Rokitansky-Kuster syndrome). *Int J Surgery* 1996;81:385-9.
12. Fedele L, Bianchi S, Tozzi L, Borruto F, Vignali M. A new laparoscopic procedure for creation of a neovagina in MayerRokitansky-Kuster-Hauser syndrome. *Fertil Steril* 1996;66:854-7.
13. Fedele L, Busacca M, Candiani M, Vignali M. Laparoscopic creation of a neovagina in Mayer-Rokitansky-Kuster-Hauser syndrome by modification of Vecchietti's operation. *Am J Obstet Gynecol* 1994;171:268-9.
14. Brucker SY, Gegusch M, Zubke W, Rall K, Gauwerky JF, Wallwiener D. Neovagina creation in vaginal agenesis: Development of a new laparoscopic Vecchietti-based procedure and optimized instruments in a prospective comparative interventional study in 101 patients. *Fertil Steril* 2008;90:1940-52.
15. Tolhurst DE, van der Helm TW. The treatment of vaginal atresia. *Surg Gynecol Obstet* 1991;172:407-14.
16. Mobus VJ, Kortenborn K, Kreienberg R, Friedberg V. Long-term results after operative correction of vaginal aplasia. *Am J Obstet Gynecol* 1996;175:617-24.
17. Davydov SN. [Colpopoiesis from the peritoneum of the uterorectal space]. *Akusherstvo i ginekologiya*. 1969;45:55-7.
18. Giannesi A, Marchiole P, Benchaib M, Chevret-Measson M, Mathevet P, Dargent D. Sexuality after laparoscopic Davydov in patients affected by congenital complete vaginal agenesis associated with uterine agenesis or hypoplasia. *Hum Reprod* 2005;20:2954-7.
19. Ghosh TS, Kwawukume EY. Construction of an artificial vagina with sigmoid colon in vaginal agenesis. *Int J Gynaecol Obstet* 1994;45:41-5.