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CONGENITAL ABSENCE OF VAGINA -OUR EXPERIENCE OF 24 CASES TREATED WITH McINDOE TECHNIQUE - A RETROSPECTIVE STUDY

General Surgery

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KEYWORDS

INTRODUCTION-

Vaginal agenesis (a-JEN-uh-sis) is a rare disorder in which the vagina doesn't develop, and the womb (uterus) may only normal,develop partially or not at all. This condition is present since birth and may also be associated with kidney or skeletal problems.Vaginal agenesis occurs in 1 of every 4,000-10,000 females. The condition is most frequently a malformation following failure of development of the Miillerian ducts,which also is referred to as müllerian aplasia, müllerian agenesis, or Mayer-Rokitansky-Küster-Hauser syndrome but is also found in patients with testicular feminization syndrome, female pseudo- hermaphrodites (most frequently women with adreno-genital syndrome), patients with Turner's syndrome and patients with combined congenital malformations. during the first 20 weeks of pregnancy, tubes called the mullerian ducts don't develop properly.[7,8]

Typically, the lower portion of these ducts develops into the uterus and vagina, and the upper portion becomes the fallopian tubes. The underdevelopment of the mullerian ducts results in an absent or partially closed vagina, absent or partial uterus, or both.[7,8]

It can be successfully managed nonsurgically with the use of successive dilators if it is correctly diagnosed and the patient is sufficiently motivated. Besides correct diagnosis, effective management also includes evaluation for associated congenital renal or other anomalies and careful psychologic preparation of the patient before any treatment or intervention. If surgery is preferred, a number of approaches are available; the most common is the Abbe-McIndoe operation. Women who have a history of müllerian agenesis and have created a functional vagina require routine gynecologic care and can be considered in a similar category to that of women without a cervix and thus annual cytologic screening for cancer may be considered unnecessary in this population.[7,8]

Vaginal agenesis is often identified at puberty when a female does not begin menstruating(amenorrhea). Other signs of puberty usually follow typical female development.Use of a vaginal dilator, a tube like device that can stretch the vagina when used over a period of time, is often successful in creating a vagina. In some cases, surgery may be needed. Treatment makes it possible to have vaginal intercourse.

The genitals look like a typical female.The vagina may be shortened without a cervix at the end, or absent and marked only by a slight indentation where a vaginal opening would typically be located.There may be normal uterus, no uterus or one that's only partially developed. If there's tissue lining the uterus (endometrium), monthly cramping or chronic abdominal pain may occur.The ovaries typically are fully developed and functional, but they may be in an unusual location in the abdomen. Sometimes the pair of tubes that eggs travel through to get from the ovaries to the uterus (fallopian tubes) are absent or do not develop typically.[7,8]

Vaginal agenesis may also be associated with other issues, such as:problems with development of the kidneys and urinary tract.Developmental changes in the bones of the spine, ribs and wrists.Hearing problems and other congenital conditions that also involve the heart, gastrointestinal tract and limb growth Vaginal agenesis may impact sexual relationships, but after treatment, vagina will typically function well for sexual activity.[7,8]

Females with a missing or partially developed uterus can't get pregnant. If pateints have healthy ovaries, however, it may be possible to have a baby through in vitro fertilization. The embryo can be implanted in the uterus of another person to carry the pregnancy (gestational carrier). Discussion of fertility options with health care provider is important part of treatment.

Pediatrician or gynecologist will diagnose vaginal agenesis based on your medical history and a physical examination Vaginal agenesis is typically diagnosed during puberty when menstrual periods don't start, even after developed breasts and have underarm and pubic hair. Sometimes vaginal agenesis can be diagnosed at an earlier age during an evaluation for other problems or when parents or a doctor notice a baby has no vaginal opening. Blood tests to assess chromosomes and measure hormone levels can confirm diagnosis and rule out other conditions. Ultrasound images shows whether pateint have a uterus and ovaries and identify if there are problems with kidneys.

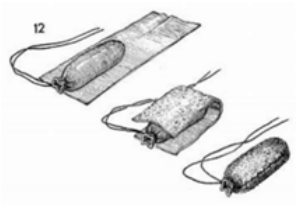
MCINDOE VAGINOPLASTY TECHNIQUE FOR NEOVAGINA

The McIndoe Vaginoplasty is indicated in patients with congenital absence of the vagina, in patients whose vagina must be removed, and in patients with severe stenosis following irradiation therapy. The procedure began with a transverse incision in the perineum, followed by blunt dissection of a cavity between the bladder and the rectum. The walls of the cavity were lined with full thickness graft placed on a mould. A split-thickness skin graft has traditionally been utilized with this operation, but we have changed to a full-thickness skin graft over an expandable foam rubber mold placed in the canal between the bladder and rectum. The use of the full-thickness skin graft reduces the postoperative contraction previously noted with the split-thickness skin graft requiring long-term utilization of a vaginal form, which is undesirable if unnecessary. Recently, it has been shown that a full-thickness skin graft takes as well as a split-thickness graft. Compared with a split-thickness skin graft, a full-thickness graft allows sufficient penetration of the transudate nutrients from the bed of the graft that are necessary for nutrition during the first 72 hours until micro-capillary ingrowth has been completed. Full-thickness grafts do not have the same degree of contraction as the split-thickness grafts.

Physiologic Changes. One of the unique physiologic changes is the selection of thickness desired for the split-thickness skin graft. The split-thickness graft of 1/12,000ths of an inch has traditionally been used because it is thin enough to allow penetration of the transudate nutrients from the bed of the graft that are necessary for nutrition

during the first 72 hours until micro capillary in growth has been completed. A split-thickness graft of 01/12000ths of an inch is, however, associated with extensive contraction in the postoperative period unless a vaginal form is worn for many months. Currently, there has been greater utilization of thicker and thicker split-thickness skin grafts until lately, full-thickness skin grafts have been utilized. Initially, it was thought that the blood supply to these full-thickness skin grafts would be insufficient and there would be excessive amounts of necrosis. The copious blood supply of the pelvis has demonstrated, however, that the full-thickness skin graft will survive. Thus with excellent survival of a full-thickness skin graft the patient is spared long-term vaginal form dilatation.

After insertion of the graft covered mould into the vaginal cavity, it was kept in place by suturing the labia minora across the mould. After 7 days, the mould was removed, the skin graft was trimmed and the soft mould was replaced by a rigid hollow mould. The patient was then instructed in daily removal of the mould, flushing of the vagina and replacement of the mould. The mould was used continuously until there was no risk of shrinkage of the reconstructed vagina, usually 6-18 months, or until the time when the patient began a normal sexual relationship.



MATERIAL AND METHODS –

During the period August 2020 to march 2022, 24 women had operation for congenital vaginal agenesis in the department of general surgery , CSSH Subharti Hospital . These 24 women form the basis of the research in the hospital.

All the patient had surgery using a modified mcindoe technique .

REVIEW –

In our study past medical records of 24 patients were reviewed and 20 of the patient evaluated clinically .
They were questioned about the level of satisfaction in sexual activity and gynecological examination were performed .
Remaining four patients were lost to follow up .

RESULTS –

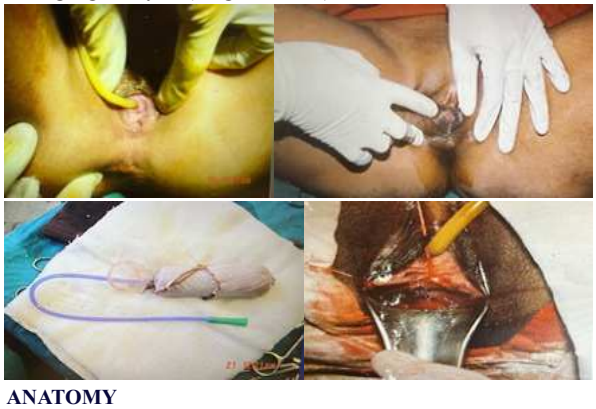
The diagnosis of vaginal agenesis in 18 patients were made at puberty when they present with primary amenorrhoea .

The 4 patients were diagnosed when they complaint of unaccomplished intercourse .

02 patients had periodic abdominal pain and were later diagnosed with vaginal agenesis.

The consultation and planned surgery in all the patient was done before 3 to 6 months of marriage.

Average age – 26year (range – 22 – 35).



ANATOMY

For all 24 patients vagina was absent , but urethral opening and genitalia were normal . The statement genitalia was determined by ultrasound pelvis . 14 patients had small solid bifid uterus , in 06 patients had hypo-plastic uterus and 4 patients had normal uterus . Details of the Fallopian tube and ovary were recorded and were found to be normal in all the patient.

SMALL SOLID BIFID UTERUS - 14
HYPOPLASTIC UTERUS - 06
NORMAL UTERUS - 04

FALLOPIAN TUBE AND OVARY PRESENT IN ALL THE CASES .

POST OPERATIVE COMPLICATIONS AND RESULT –

05 patients out of 24 had patchy skin graft loss. In most of the patients (19/24) , the skin graft had taken completely , 07 days after the surgery . Late post operative complications- 03 patients developed vaginal stenosis, which treated by dilatation only .04 patients had hypertrophic scar on the donar site which was managed by intralesional triamcinolone injection.

PATCHY GRAFT LOSS – 05
VAGINAL STENOSIS / STRICTURE – 03
HYPERTROPHIED SCAR OF DONOR SITE – 04

In summery, 17 patients had a uncomplicated course of treatment with no admission to hospital, no intra-operative or postoperative complications and complete graft taken.

On final examination duration of 6 months , all patients were recorded as having a satisfactory result that is complete graft uptake, adequate dimension of the vagina and no stenosis or fistula giving symptoms. Patient used the mold for the average period of 01 year after the operation, this period range from 3 months to 18 months.

Clinical evaluation of the 24 patient, 20 were reexamined after 2years post operatively (range 1 – 3years) .All patients were examined gynecologically.The dimension of the reconstructed vagina was measured. and found to have a average length of 8.5 (range 6.5 - 12cm). And average diameter of 3.4 cm (range 3- 4 cm) . The length of the vagina exceeded 7cm in 16 patients and 11cm in 2 patients . In 03 patients, small hyper granulating tissue were found. 01 patient had minor stricture on the top of the vagina not requiring treatment. 18 out of 20 patients indicated that they were having normal and satisfying sexual relationship.

01 patient mentioned bearable but painful sexual relationship and 01 patient stated that her vagina was too short for normal sexual relationship.

None of the patient included in our study had any other congenital anomaly present.

DISCUSSION –

Vaginal agenesis has to be considered in girls with primary amenorrhoea, periodic abdominal pain, inability to accomplished sexual intercourse.

Several researches by experienced surgeons have documented good results of modified mc indoe technique. In our study follow up 90% of the patient had satisfactory sexual relationship done in 20 patients that is similar to case reported by the literature. [1,2,4,5]

Functional uterus was found in 16.67 % of patients with normal fallopian tubes and ovaries. Our surgical outcome is comparable to other studies done in patients with functional uterus with vaginal agenesis.[1,2,3]

In 79.16% out of 24 patients had completed graft uptake which was similar to other literature [3,4,5,6]The late complications were documented in 12.5 % vaginal stenosis,[4,5,6]

Rare complications documented in other studies on patient who underwent mc indoe vagniplasty are rectal perforation , rectovaginal fistula , vaginorectal fistula.[1,2,3]None of theses were noted in our study .

CONCLUSION-

McIndoe technique is simple and good. The course of treatment is often protracted due to complications but all complications are amenable to treatment and only a few complications are serious. The

final results are good. The patients achieve a vagina of satisfactory dimensions and hence obtain the possibility of having normal sexual relationships. They have no vaginal strictures, fistulas or epithelial defects giving symptoms.

In order to obtain good results, certain precautions have to be taken. To ensure good skin graft take, it is very important that intra- and postoperative bleeding is avoided by using careful dissection and obtaining good haemostasis. The dissection must be performed in the plane of cleavage between the rectum and the bladder, without damage to the surrounding muscles. There must be no haematoma in the dissected cavity. This can be avoided by flushing the cavity before inserting the skin graft and mould. To avoid shrinkage and strictures postoperatively, correct use of a mould is of great importance and this applies even years after the operation during periods of sexual inactivity.

REFERENCES -

1) Sinha, A; Amrita, ; Sinha, M; Biswas, P. Anatomical and Functional Evaluation of Modified Abbe-McIndoe Vaginoplasty at a Tertiary Care Hospital. Nigerian Journal of Clinical Practice 27(5):p 643-646, May 2024. | DOI: 10.4103/njcp.njcp_874_23
2) Hayashida SA, Soares JM Jr, Costa EM, da Fonseca AM, Maciel GA, Mendonça BB, et al. The clinical, structural, and biological features of neovaginas: A comparison of the Frank and the McIndoe techniques. Eur J Obstet Gynecol Reprod Biol 2015;186:12–6.
3) Deldar-Pesikhani M, Ghanbari Z, Shahrbabaki FS, Nassiri S, Raznahan M, Shokrpour M. Comparison of modified McIndoe and Davydov vaginoplasty in patients with MRKH syndrome in terms of anatomical results, sexual performance and satisfaction. J Family Med Prim Care. 2022 Aug;11(8):4614-4618. doi: 10.4103/jfmpc.jfmpc_1939_21. Epub 2022 Aug 30. PMID: 36352939; PMCID: PMC9638586.
4) Freundt I, Toolenaar TA, Huikeshoven FJ, Drogendijk AC, Jeekel H. A modified technique to create a neovagina with an isolated segment of sigmoid colon. Surg Gynecol Obstet. 1992;174:11–6. [PubMed] [Google Scholar]
5) Tolhurst DE, van der Helm TW. The treatment of vaginal atresia. Surg Gynecol Obstet. 1991;172:407–14. [PubMed] [Google Scholar]
6) Karapınar OS, Özkan M, Okyay AG, Şahin H, Dolapçıoğlu KS. Evaluation of vaginal agenesis treated with the modified McIndoe technique: A retrospective study. J Turk Ger Gynecol Assoc. 2016 Jan 12;17(2):101-5. doi: 10.5152/jtgga.2016.16013. PMID: 27403077; PMCID: PMC4922721.
7) American College of Obstetricians and Gynecologists. Committee Opinion No. 728: Mullerian agenesis: Diagnosis, management, and treatment. Obstetrics & Gynecology. 2018; doi:10.1097/AOG.0000000000002458. Reaffirmed 2020.
8) Herlin MK, et al. Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome: A comprehensive update. Orphanet Journal of Rare Diseases. 2020; doi:10.1186/s13023-020-01491-9.