Mc Indoe's Vaginoplasty

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Summary

We present a series of 12 cases aged between 16-20 years who presented with congenital absence of vagina. In all these cases uterus was absent. They all had well developed secondary sexual characters and were karyotypically females. Of these one case had ectopic pelvic kidney and one had only one functional kidney. In all the cases, artificial vagina was created by McIndoe's technique using split thickness skin graft. The patients were followed atleast for 6 months.

Introduction

Absence or obstruction of vagina is a serious disability for a young female and oportunity for a plastic surgeon to give her a new quality of life. Operation for the formation of an artificial vagina depends essentially upon the case in which a large space can be fashioned between the bladder and urethra in front and the rectum behind. The history of attempts to form a vagina dates back to ancient times and various techniques (Like using pedicle flaps from inner thigh and labia, segments of gastrointestinal tract etc.) have been used to form a vagina.

Much later McIndoe achieved excellent results with split thickness skin graft inverted over a stent. This technique has remained the most popular option for vaginal reconstruction till date. The optimum time, indeed the only time, to perform constitution of the vagina is prior to sexual initiation.

Material & Methods

We are presenting a series of 12 cases of vaginal agenesis which reported to our hospital over a period of 5 years. All patients were young adult females between 16-20 years of age. Of these 3 were married and 9 unmarried. All patients had well developed secondary sexual characters. A detailed history was taken especially for any cyclical abdominal pain. General systemic and local genital examination were performed. After all routine investigations, intravenous pyelography was done to look for any urinary tract abnormality and ultrasonography was done for visualizing the uterus and ovaries. Buccal smear was done for karyotyping.

All 12 patients were found to have normal ovaries. As far as uterus is concerned, no patient showed any evidence of normal functional uterus. Of 12 patients, one had ectopic pelvic kidney and one had only one functional kidney.

In all 12 patients vaginoplasty was done by McIndoe's technique and patients followed for 5 years.

Operative technique

Under general anaesthesia or spinal anaesthesia, patient was kept in supine position and the thigh was cleaned and draped. Using a calibrated Fischman's dermatome, an intermediate thickness split thickness skin graft 15 x 20 cm size was harvested from the anteromedial surface of the thigh, and the donor area was dressed with sofratulle, gauze, cotton & bandage

The patient was then put in lithotomy position. The part was cleaned & draped and an indwelling urethral catheter put in, and connected to urobag. A flatus tube was passed per rectum and advanced upwards in the sigmoid colon.

A cruciform incision was then made in the introitus, away from clitoris & urethra. Potential space was created in between the bladder & urethra in front and rectum behind by blunt dissection. Lateral enlargement was obtained by few judicious snips in the levator fascia with the scissors directed toward the side wall of the pelvis. All precautions were taken to prevent injury to urethra & rectum.

The new vaginal orifice should admit two fingers without difficulty. It is mandatory to obtain complete haemostasis, by electro-coagulation of the bleeding points. The cavity is packed with gauze soaked in 1:5000 Adrenaline solution.

Now the harvested graft was taken out of the saline solution & multiple holes were done by #11 surgical blade, just to provide let out of collections if any. The graft is sutured directly over a dental compound mould, with the dermal surface outside using fine chromic catgut. This gave the best results. (Previously we were using condoms filled with cotton, and then dental compound moulds covered with sofratulle). The vaginal pack is removed, the mould introduced in place and the labia were loosely sutured together using horizontal mattres sutures, to prevent the extrusion of the stent. A constipating regimen is prescribed. The graft is inspected first on the 10th day by that time graft is well taken up.

Post operative care

Foleys catheter was attended and graft inspected twice a week for another week. Then the patient was advised to wear the mould almost constantly for three months, and in the night for the next there months. Sexual intercourse was allowed after 3 months in married women.

Results

Table –I
Outcome

Result	No. of cases	Percentage
Excellent	9	75
Good	2	16.66
Poor	1	8.33

Results were found to be excellent in 9(75%) cases without any complication, good in 2(16.6%) cases who developed infection which was treated successfully by dressings and antibiotics. (Table-I). One patient developed rectal perforation which was treated conservatively. In long term follow up, 4 cases reported with vaginal stenosis which was corrected by regular dilatation with mould. (Table II).

Table – II
Complications

Type	No. of cases	Percentage
Infection	2	16.66
Rectal Perforation	1	8.33
Vaginal Stenosis	4	33

Discussion

Vaginal agenesis, is a rare anomaly occurring in approximately 1:4000 births. It was McIndoe who attempted to construct a new vagina and since then various techniques have been described, the most popular of which remained McIndoe's technique for vaginoplasty using split thickness skin graft. (McIndoe and Bannister 1938).

Many tried to do it using pedicle flaps from inner thigh and labia but did not find it much encouraging and others used racket handle tube flap using graduated test tube conformers with a pulsion force exerted against the perineum, which was too complicated. (Frank and Geist, 1927). The vaginal reconstruction were also tried using gracilis myocutaneous flaps. (McCraw et al, in 1976).

First vaginal canal reconstruction was done using split thickness skin graft which was placed over a mould made of condom stuffed witth iodoform gauge and was removed after ten days (Abbe 1898). This method was found to be quite successful and was further modified by McIndoe, who emphasized over absolute haemostasis and prolonged dilatation of the graft during post operative period when graft tends to contract.

Complications like rectal prolapse, disagreeable mucosal secretions occurred with increased frequency with these procedures. The patency of neovaginal canal was maintained with obturator while it became spontaneously epithelialized but results were unimpressive. (Wharton, 1938). Till date, this is the most popular and successful technique used by others with excellent results. (Gracis & Jones 1977).

References

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