Original Article

Vaginoplasty Using Sheare's Method Followed by Amnion Graft in Patients of Vaginal Agenesis Associated with Mayer-Rokitansky-Kuster-Hauser Syndrome

Dr. Sumera Tahir, Dr. Saadia Saleem

ABSTRACT

Objective: To evaluate outcome of vaginoplasty by Sheare's method followed by amnion graft in cases of vaginal agenesis due to Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome. **Study Design:** Descriptive observational. **Place & Duration:** Department of Obstetrics & Gynaecology, Allied Hospital, Faisalabad from 1st January 2012 to 31st December, 2014. **Methodology:** Nine patients with MRKH syndrome underwent vaginoplasty by Sheare's method in which the space between two labia was dilated with Heagar's dilator along the vestigial Mullerian ducts. Thus two tunnels were created and the central septum excised to form a single vagina. A mould covered with amnion was then placed in the neovagina. All cases were followed up for six months. **Results:** Amnion graft was taken completely and presented no intra-operative or post-operative complications in all 9 cases. There was contracture of neovagina in one case only and this was due to non-compliance with continued mould placement after discharge from Hospital. **Conclusion:** Sheare's method of vaginoplasty followed by amnion graft is an easy procedure with minimal or no complications and provides excellent anatomic and cosmetic results. **Key words:** Vaginoplasty, Sheare's method, amnion graft.

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INTRODUCTION

Vaginal agenesis is present in 1 in 4000 to 10000 females at birth. 90% of these patients have MRKH syndrome described as an individual with normal female genotype and phenotype, absent vagina absent or rudimentary uterus and functioning ovaries.[1] Remaining 10% have complete androgen insensitivity with XY karyotype. MRKH 1 occurs as an isolated defect and MRKH 2 is associated with renal (35% cases) and skeletal (12% cases) anomalies.[2,3]

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Several methods for creating neovagina have been described. The non-surgical method is called Frank's[4] technique and depends upon serial dilation of the perineal dimple between the urethra and anus into a functional invagination using gradual dilators. It claims upto 90% success but requires counseling and extensive motivation to persist with serial dilatation on daily basis over a prolonged period of time. Moreover it is socially unacceptable in our setup.

The surgical method is called McIndoe vaginoplasty where the rectovaginal space is surgically dissected to create a neovagina. Sheare's[5] in 1960 introduced a simple and quick procedure to create neovagina. The space created is then lined with the variety of grafts mounted on a variety of moulds. The grafts include split thickness skin graft obtained from thigh or buttock[6], autologous grafts like buccal mucosa[7],

allografts like amnion[8]. Recently autologous epithelial and muscle cells isolated from vulvar biopsies are being used to reconstruct engineered vaginal organ[9].

Correct post-operative use of mould is recommended to avoid shrinkage and stricture of neovagina.

The current case series was conducted in Allied Hospital, Punjab Medical College, Faisalabad to see the outcome of Sheare's vaginoplasty followed by amnion grafts.

MATERIALS & METHODS

Nine patients of primary amenorrhea age 16-25 years, married or intending to get married in next six months were admitted to the inpatient department of Allied Hospital, Faisalabad and evaluated for genital tract anomalies over a period of 3 years. A diagnosis of MRKH syndrome was made by physical examination showing female phenotype with absent vagina, pelvic ultrasonography showing absent uterus or minimal remnant of uterus and normal ovaries and karyotyping confirming XX genotype.

After counseling and consent vaginoplasty was performed using amnion graft.

Fresh amnion was obtained from women undergoing simultaneous caesarean section after excluding infections like Hepatitis B & C and placed in normal saline. The mould was made of 20 CC plastic syringe with its piston removed and nozzle cut. It was cut to 8 cm size and covered with gauze pad. Finally a latex condom was fitted over it. Fresh amnion was rapped over the mould with amnion facing it and the chorion was gently peeled off from the amnion. The vaginoplasty was done in general anaesthesia with the patient in lithotomy position and bladder catheterized.

Steps of Sheare's method of vaginoplasty

Two dimples were identified in between tow labia minora below the urethral orifice in the location of the normal hymen. These two dimples are at the lower end of the vestigial Mullerian ducts. Haegar's dilators of increasing size were gently pushed through the dimples. Thus two tunnels were created along the vestigial Mullerian ducts, which looked like double barrel tunnels with a central septum. The central septum was excised and a single vagina formed.

The mould covered with amnion was then placed in the neovagina. Three to four silk stitches were placed to approximate the labia majora over the introitus to retain the mould. The mould and Foley's catheter were removed on 7th post-operative day and the neovagina which had taken up the amnion graft was thoroughly washed with normal saline. A new autoclaved mould was then reinserted and T binder applied to retain it. The procedure was repeated twice a week in theatre without anaesthesia and patient also taught to remove, wash and replace the mould. Patients were discharged after 3 weeks and called back monthly for next 5 months.

The mould was kept continuously for 3 months followed by nightly insertions for another 3 months to prevent contraction. Married women were allowed to start sexual intercourse after 3 months of mould placement.

RESULTS

Total of 9 females underwent the surgical procedure over a period of 3 years. There ages ranged from 16-25 years. Three (33.3%) were married. Out of 9 patients 8 (89%) had MRKH 1 and remaining 1 (11%) had MRKH 2 with associated renal abnormality.

The operation time ranged from 30-45 minutes. There was no immediate per-operative complication. The amnion graft was completely taken up in all 9 (100%) cases. Outcome of vaginoplasty at 3 months showed that 8 (89%) had normal recovery with vaginal depth of upto 7cm. One (11%) patient had vaginal constriction due to poor compliance with mould placement after discharge. It was corrected by digital dilatation under general anaesthesia followed by regular subsequent placement of mould. At six months all patients had adequate vaginal length and diameter. The 3 married women had normal sexual intercourse.

DISCUSSION

A total of 9 cases of MRKH underwent vaginoplasty by Sheare's method followed by placement of mould covered with amnion graft.

Wharton Sheare's method accomplished vaginoplasty with ease simplicity and no intra-operative or post-operative complications. Similar

results have been reported by Somajita Chakrabarty and colleagues[10] and by the Vienna Medical School[11] and C Fotopoulou[12]. Sarwar I and colleagues from Ayub Medical College also reported similar excellent resutls[13]. Out of 28 cases of MRKH in their series managed by modified McIndoe followed by amnion graft there was only 1 case with intra-operative complication of rectal perforation which was repaired.

The use of amnion graft to line the neovagina gave 100% take up results. The subsequent consistent use of mould to keep neovagina patent was successful in 88% (8) cases.

Although few studies have used amnion graft to line the neovagina but all show satisfying results. Advantages of the procedure are that it is safe inexpensive and easy to perform. Epithelial lining resembling normal vagina is formed with excellent cosmetic and psychological results.

CONCLUSION

The ideal method for vaginoplasty is still not currently known. Several new techniques of vaginoplasty have evolved over the years using different materials as graft but in developing countries like Pakistan where facilities and expertise for new techniques are not available. Vaginoplasty by Sheare's method followed by amnion graft is a safe and effective procedure to treat patients of vaginal agenesis.

Dissection of generous vaginal space, use of mould covered with amnion graft, proper post-operative care and meticulous and prolonged use of the mould by the patient are the essentials of success.

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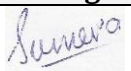
Prof. Dr. Sumera Tahir	1st Author	
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