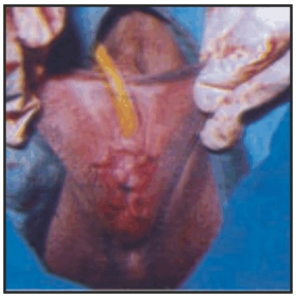
ORIGINAL PROF-964

VAGINOPLASTY



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ABSTRACT... ganatra@cyber.net.pk **Objectives:** To assess the efficacy of amniotic membrane as a true covering in vaginoplasty. **Design:** A prospective hospital based study. **Setting:** Department of Plastic Surgery Dow Medical College & Civil Hospital Karachi and Punjab Medical College & Allied Hospital Faisalabad. **Period:** From 1997 to 2002. **Subjects & Material:** All patients selected for vaginoplasty surgery were explained every detail about the procedure. Amniotic membrane was obtained from caesarean section placentas, washed with solution of normal saline, crystalline penicillin and sodium hypochlorite. A pocket was created between rectum and urinary bladder. Amniotic membrane was wrapped on vaseline bandage and inserted into neo vagina. First dressing was changed on 5th day and subsequent dressings with amnion were done on 7th, 9th and 11th days. Results: Amnion was used in five patients. There was shrinkage of vaginal cavity in all these patients. **Conclusion:** Amniotic membrane should be avoided in reconstruction of vagina.

Key words: Amnion. amniotic membrane, Vaginoplasty

INTRODUCTION

Vaginoplasty is usually performed in patients with congenital absence of vagina, after tumor resection or sometimes after severe trauma[1]. There are many surgical techniques for the repair of vagina. The basic step in all methods is the creation of pocket between urinary bladder and rectum. It's a matter of lining this cavity, which differs. McIndoes procedure, which involves the lining of cavity by split graft, is the "Gold standard" by which all other techniques are compared[2].

In our patients we have used amniotic membrane for the lining of cavity. Amnion is a thin, tough, transparent

structure. It is about 10-15 micrometer thick. It is made up of two membranes, the inner amniotic membrane and the outer chorion. Chorionic side of the membrane is rougher and mucinous. Amniotic membrane can easily be separated, the amniotic membrane is found to be smooth and shining and much tougher and more elastic and easier to clean than the thicker chorion, which does not strip from the placenta[1,3].

MATERIAL AND METHOD

Fresh amniotic membrane was obtained from mothers undergoing Caesarean section, who were sero negative for Hepatitis and venereal diseases, with no history of jaundice, pre-mature ruptures of membranes, endometritis, malaria or toxaemias. Me-conium stained membranes were also rejected.

The membrane was stripped from placenta and all blood and debris was removed using 4" x 4" moist gauze pieces. It was then rinsed first with normal saline and then with a solution of normal saline containing crystalline penicillin 200,000 units/100ml and 0.025% sodium hypo chlorite and placed in kidney tray (Fig.I).

Fig-1. Washed and clean amniotic membrane in kidney tray

The membrane was then cut into pieces of 10 x 10 cms and put into petri dish containing above solution. It was the stored in refrigerator at 4˚C and at the time of surgery was taken to operating room. It was always used within 24 hours.

In operating room, selected patient was placed in Lithotomy position with the legs on stirrups. Bladder was catheterized (Fig.2). A pocket was created between urinary bladder and rectum (Fig.3). Amniotic membrane was taken out from petri dish and was wrapped over Vaseline bandage. This bandage was introduced into the neo-vagina (Fig.4) and secured by T-bandage.

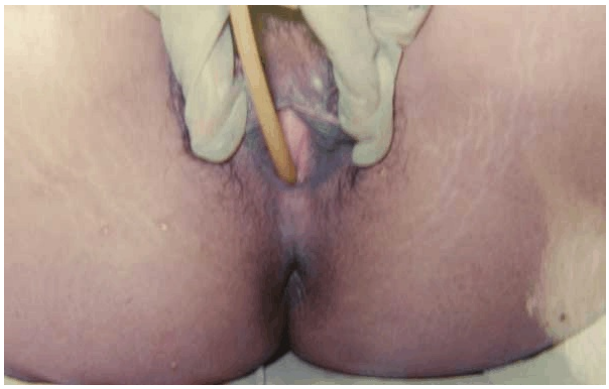

Fig-2. Patient in lithotomy position with bladder catheterized

Post operatively patient was kept in bed for 48 hours. Urinary catheter was maintained for 5 days. Antibiotics given were Inj.Cefradine, Inj.Gentamycin and Inj.Metronidazole for five days. First dressing was done on 5th day. Subsequent dressings with amnion were done on 7th, 9th & 11th days. After 11th day patient was advised to wear stunt made of condom stuffed with cotton.

RESULTS

From 1997 to 2002 five cases of vaginoplasty were operated in which amniotic membrane was used. All the patients were adult females. Ages in each five cases were 15, 18, 20 and 21 years.

In all five patients at the end of surgery, there was easy entry of two fingers and vaginal length was 8 cm. On first dressing change, vaginal length and entry of fingers were same but were painful. On examination no sign of amnion was noted and vagina was raw. A second

amniotic membrane was applied and it was changed on alternate days for six more days. At 11th day vaginal length was 6 cm and entry of two fingers was very painful. We had a follow up of all the patients for 12 weeks after the surgery. All the patients were unmarried and were not able to report on status of intercourse, however on clinical examination at the end of three weeks there was shrinkage of vagina to one finger in all cases and length reduced to 5 cm though all patients were wearing a stunt made of condom stuffed with cotton. Since results were disappointing, we stopped using amniotic membrane in vaginoplasty and started using split skin graft instead.

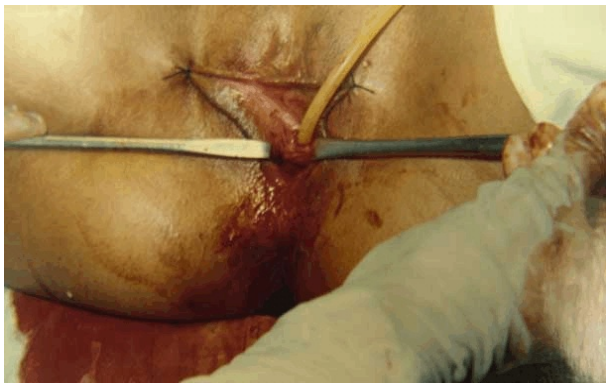

Fig- 3. A pocket is created between rectum and urinary bladder

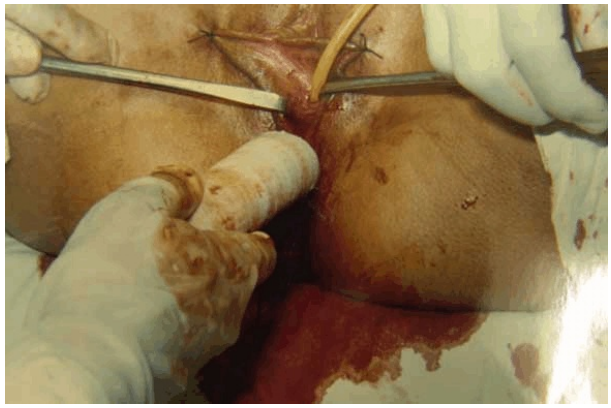

Fig-4. Amniotic membrane is being wrapped over vaseline dipped bandage and being introduced into neo-vagina.

DISCUSSION

There are many methods of vaginal reconstruction with their own advantages and disadvantages. Some of these are as follows:

Use of split skin graft[5], full thickness skin graft[6], Ileum, pelvic colon[7], Gracilis[9] myocutaneous and groin fasciocutaneous[12] flaps have also been used.

Use of split skin graft (SSG)[5] or McInode technique is the gold standard with which all other techniques are compared. It is simple procedure and easy to perform and carries less morbidity. Good vaginal length is easy to obtain. Disadvantage of this technique is the shrinkage of the cavity in time because of contraction of the skin graft. To avoid this patient has to wear a stunt at all the times, which is cumbersome.

Use of full thickness graft (FTG)[6] instead of split skin graft was done in order to prevent contraction of the graft, but it carries greater morbidity and necessity of wearing the stent is still there.

Various portions of the bowel such as Ileum and colon[7,8] were used to reconstruct the vagina. Disadvantages associated with the use of ileum include bleeding due to coital trauma, excessive mucous secretion, periumblical pain associated with coitus and tendency of the graft to prolapse.

Gracilis myocutaneous flap[9] carries a pedicle, which is very precarious, and chances of flap failure are quite high especially for a surgeon in his early curve. Furthermore it produces a vary conspicuous scar.

Pudendal thigh flap[10,11,12,13] has a robust blood supply and chances of necrosis are low. There are certain disadvantage with this pudendal thigh flap. It is technically more difficult then McIndoe technique and requires more time.

Use of amniotic membrane to line the cavity was reported by Tancer[14] and Tozum[15]. In our hands its use remains far away from the ideal solution as amniotic

membrane never takes but acts as a biological dressing that helps in accelerating the wound healing. Initially it was thought that amniotic membrane takes as skin graft and there is in-growth of blood vessels into it[16,17], which has now been proved to be wrong[18].

CONCLUSION

Amniotic membrane as substitute for split skin graft for lining of vaginal cavity has proved to be very disappointing in our hands. We recommend that its use in vaginoplasty should be avoided. However failure of amniotic membrane in vaginoplasty does not alter its usefulness as a biological wound dressing especially in burn wounds.

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