


## Congenital Atresia Vagina

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ONGENITAL absence of vagina is not an uncommon condition, incidence being 1:500 (More, 1941; Wolf and Allen, 1953), 1:570 (Chawla et al, 1963). The patient usually presents with primary Amenorrhoea and Dyspareunia. Reconstruction is indicated in patients who are married or intending to marry in near future and also in those rare cases where functioning uterus is present.

Many workers in the past like Baldwin (1907); Graves (1921); Wharton (1938), Frank, (1938) and Leo Brady, (1945) have tried different techniques for the purpose. In present series, 10 cases are reported with 2 years follow up who underwent vaginal reconstruction by McIndoe's method (1938).

Special investigations like sex chro-

**Table 1 : Depicting cardinal presenting features**

| No. | Age     | Marital Status | Duration Since Married | Presenting Symptoms          | Secondary Sex Character |
|-----|---------|----------------|------------------------|------------------------------|-------------------------|
| 1.  | 25 yrs. | Married        | 8 yrs.                 | Amenorrhoea                  | Well developed          |
| 2.  | 15 yrs. | Married        | 3 yrs.                 | Amenorrhoea                  | Well developed          |
| 3.  | 18 yrs. | Married        | 4 yrs.                 | Sterility                    | Normally developed      |
| 4.  | 20 yrs. | Married        | 3 yrs.                 | Amenorrhoea with cyclic pain | Normally developed      |
| 5.  | 24 yrs. | Married        | 5 yrs.                 | Amenorrhoea                  | Normally developed      |
| 6.  | 19 yrs. | Married        | 2 yrs.                 | Amenorrhoea                  | Normally developed      |
| 7.  | 21 yrs. | Married        | 4 yrs.                 | Amenorrhoea                  | Normally developed      |
| 8.  | 25 yrs. | Married        | 4 yrs.                 | Dyspareunia                  | Normally developed      |
| 9.  | 20 yrs. | Unmarried      | —                      | Amenorrhoea                  | Normally developed      |
| 10. | 21 yrs. | Married        | 1 yr.                  | Amenorrhoea                  | Normally developed      |

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matin determination, intravenous pyelography and Gynaecography in addition to routine tests were carried out in all the cases. Figure 1 presents the condition preoperatively.

### Sex Chromatin

Was studied by buccal smear. All cases revealed positive sex chromatin.

### I. V. P.

No abnormality was detected except in case No. 9. In this patient, there was single pelvic kidney on the right side.



Fig. 1—Congenital absence of vagina—Preoperatively.

### Gynaecography

This was done in six cases. Uterus was absent in all the cases except case No. 4. Ovaries and tubes were normally visualised. In the same patient which had uterus, there was left sided tubo-ovarian mass and right ovary was also enlarged.

### Results and Follow up

Figure 2, 3, 4 and 5 depict the moulds and operative steps. The mould and urethral catheter were taken out on

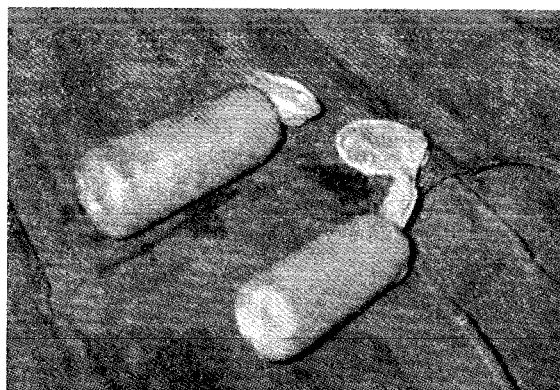


Fig. 2—Sponge mould wrapped in condom

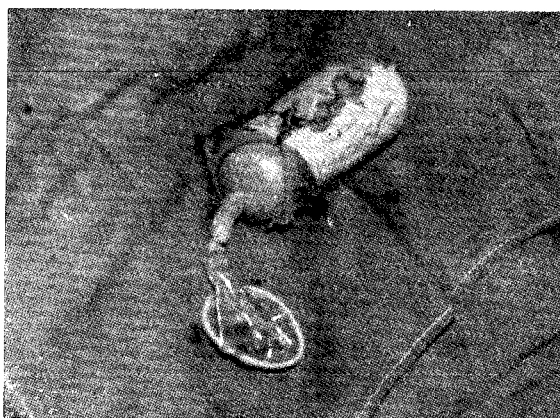


Fig. 3—Mould covered with skin graft.

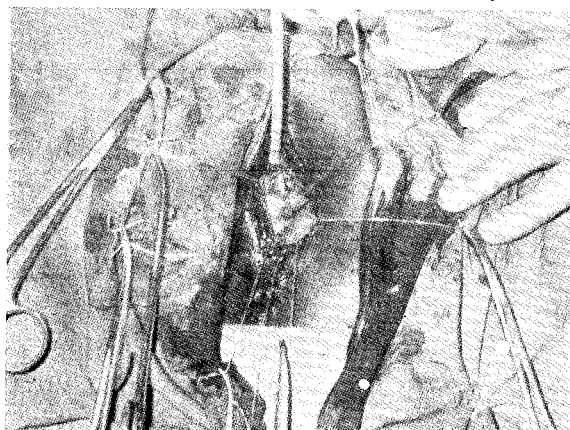


Fig. 4—Cavity dissected out in the space between rectum and bladder.

10th post-operative day under pentothal anaesthesia. Graft take up ranged from 80-100% and cavity size varied from 5.5-8.0 cms. One week after, mould was changed second time and the graft had completely lined the space by then. The graft had



Fig. 5—Mould inserted and retained by tie over dressing taken well at the vault in all the cases. By second to third post-operative week graft donor area had invariably healed which was adjudged by falling off or loosening of dressings. Patients have been frequently checked till this date making follow up of 2 years. Out of 10 cases, 9 were married, one got married four months after operation. At the time of last follow up vagina in all the cases was of adequate depth and width. Only complications encountered were accidental slipping of mould in one and hypertrophic mucocutaneous tags in another patient (fig. 6).

**Discussion**

The construction of an artificial vagina

in individuals having its congenital absence has attracted considerable attention. Dupuytren is generally accredited as being the first to have attempted the surgical treatment of the condition in 1817. Since then many methods to reconstruct vagina have been described. In 1907 Baldwin utilized double loop of ileum to form vagina. Popoff (1910) used rectum for this purpose, which was modified by Schubert (1911). Excessive mortality and morbidity and other factors like prolapse of mucosa as well as irritating intestinal discharges brought down the popularity of these procedures.

Attempt was then made for less cumbersome procedures, constituting the dissection of an adequate space between rectum and



Fig 6 - Post-operative view. Showing size of cavity and hypertrophied Muco-cutaneous tags in one of cases.

bladder and lining the space. Graves (1921) used labial and thigh flaps, while Geist (1927) used Gillies tubed pedicle flap. Disadvantages with them included

scarring at donor sites, necrosis of flaps, hair growth in newly formed vagina and over and above these were the manystaged operation.

Wharton (1938) came forward with simple reconstruction of vagina and keeping the cavity dilated with balsa wood covered with rubber sheath. This procedure was simple undoubtedly but has been discarded as it needs wearing the vaginal form for long time without which contraction of the cavity is bound to take place. Non-surgical technique of local pressure advocated by Frank (1938) is painful and cumbersome, moreover patient has to be tolerant, intelligent and cooperative.

Similarly many varieties of vaginal forms have been employed like balsa-wood (Wharton, 1938), metallic mould, Pyrex glass (Whitacre and Alden, 1951) and plaster of paris. They maintain the cavity size because of their hardness but many a times are responsible for complications like pressure necrosis of graft, recto vaginal or vesico vaginal fistulae and marked infection with copious discharge.

We have used McIndoe's (1938) method with some modifications. A U-foam sponge mould was used which is prepared by sewing sponge pieces together till the mould becomes tough and resilience is greatly diminished but not completely lost. This was smoothed and fashioned to the shape of vaginal form (Fig. 2 and 3) and was covered with condom. Advantages of the mould were that pressure necrosis was not seen in any of the cases. Copious dis-

charge and infection almost a constant feature with rigid hard moulds were conspicuously lacking because of excellent graft take up (80-100%). Another advantage with the mould was that it could adjust to curvatures and depth of cavity.

The usual complication of contraction of cavity could be avoided firstly by making the cavity bigger than normal, secondly by perfect graft take up made possible by the type of mould used and thirdly by allowing early sexual relations as majority of the cases were married in present study.

Thompson, et al (1957) tried McIndoe's procedure in 32 of their cases. In 5 their results were anatomically or functionally unsatisfactory. In two they encountered rectovaginal fistula and in another two, necrosis of distal urethra because of pressure exerted by hard vaginal form used by them.

The complication of R. V. F. and V. V. F. could be avoided because of nature of mould and none of our cases had sloughing of urethra. Even in few urethral catheter was removed on fourth or fifth post-operative day without producing any harm. The introitus did not show any contraction till the date of follow up in any of the cases, due to stitching of graft to the mucosa.

Instead of thin graft, as advocated by McIndoe, we employed medium thickness skin graft. Advantage being thin graft can undergo necrosis easily as well as is lysed by bacteria if there is slightest infection, and is far more likely to contract.

Thick graft provides stable, supple and smooth surface.

Instead of using hard vaginal mould foam form is suggested.

**Summary :**

McIndoe's method of vaginal reconstruction is simple.

Common complications like contraction of cavity, hypergranulation tissue, V. V. F., R. V. F. etc. could be avoided.

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