An Operation for the Cure of Congenital Absence of the Vagina

BY

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THE treatment of congenital absence of the vagina appears to have exercised the patience and skill of gynaecologists for many years. A glance at the literature shows that there is no settled opinion as to the correct management of the condition, while there are some definitely opposed to its surgical treatment by any existing method. Three procedures have been used by those who are surgically inclined:

(*a*) *Free grafts.* Heppner,[1] Abbe,[2] Flynn,[3] Kirschner and Wagner,[4, 16] Monod and Iselin.[5]

Here free skin grafts, usually in multiple small pieces, are applied to the walls of the cavity made between the rectum and the bladder and maintained there by some form of flexible or rigid mould for 7 to 10 days. At the end of that time the mould is removed and the calibre of the cavity maintained as far as possible by intermittent dilatation. In the words of Monod and Iselin this must be begun early, repeated frequently and prolonged indefinitely. Judging from reported cases the results are indifferent and appear to run parallel with the efficacy of the subsequent dilatation.

(*b*) *Pediculated flaps.* Graves[6] first advocated the use of two full thickness pediculated flaps turned up from the thighs and inserted into a pre-formed vaginal cavity. Frank and Geist[7] modified this as an application of the Gillies tubed pedicle with better results. They stated that the only methods which can compare with it are the Baldwin,[8] Mori,[9] and Schubert[10] operations.

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Though we have not used Graves's method, considerable experience with tubed pedicles elsewhere in the body leaves no doubt that it is not easy, is liable to complications, and will produce considerable scarring of the thighs.

(*c*) *Intestinal transplantation.* The most important of these are the Baldwin and Mori operations in which a loop of small intestine is utilized for the formation of a new vagina, and the Schubert procedure, which involves transplantation of the rectum forwards, the sigmoid being brought down to take its place. Unquestionably the former has held the field ever since its introduction, despite its indefensible mortality of 10 to 20 per cent, difficulty of performance, and the fact that if successful the patient is supplied with a piece of gut as an organ of coitus.

There is no doubt that neither of these formidable operations would ever have become popular if the simpler method of free skin grafting had not been unsatisfactory. That this is so is indicated by the records of partial or complete contraction occurring in a high percentage of the reported cases. Comparison of the methods used with those adopted in the successful performance of cavity grafts elsewhere in the body (McIndoe[11]) convinced one of us long ago that what is wrong is not so much the principle of the method but the manner of its performance. It is one thing to line a subcutaneous cavity with thin skin, but an entirely different matter to maintain the patency of the cavity once the grafts have taken. It is well known that if left to itself free grafted skin uniformly undergoes a contractile phase less marked on convex surfaces where there is circumferential tension, and most marked when this circumferential tension is poor or absent, such as on concave surfaces or in body cavities. This contractile phase lasts from 3 to 6 months, after which time absorption is complete and contraction ceases. If the graft is prevented from shrinking by a continuous stretching force throughout the entire period of contraction it does not occur at all. As a means of preventing contraction intermittent dilatation is a quite inadequate measure and it is for this reason that vaginal free grafts have not been so satisfactory as they should have been.

Applying, then, the same principles which govern the treatment of the syphilitic nose (Gillies[12]), the obliterated buccal sulcus, the obliterated eye-socket (Esser,[13] Gillies[14]) the external auditory meatus (McIndoe[15]), and in hypospadias the absent urethra (McIndoe[16]), the operation for the cure of congenital absence of the vagina becomes a relatively simple one. It is well within the scope of any surgeon who can cut an adequately thin skin graft,

It does not endanger the life of the patient or produce any secondary deformity, and should give a uniformly satisfactory result. In 1936 the plan and details of the proposed treatment had been suggested (by McIndoe) to V. S. Counseller, of the Mayo Clinic, who in a private communication has since reported the successful treatment of five cases. The opportunity of putting these principles into effect in England, however, was not given until Mr. Chapman, of Grimsby, referred Miss C. to one of us (Banister) for gynaecological opinion and treatment. Throughout the case close gynaecological and plastic co-operation has been maintained. Our experience of this and subsequent cases would indicate that for congenital absence of the vagina the procedure is so simple and safe that any abdominal operation is now out of the question. (Fig. 1.)

Case Report.

The patient, aged 22 years, had never menstruated and menstrual molimena of any kind were absent. Upon routine examination Mr. Chapman found the vagina absent and did not advise any treatment. Later the question of nubility arose and the patient was admitted to the Chelsea Hospital for Women. Examination under an anaesthetic revealed complete absence of the vagina but a fairly well-formed vulva. On rectal examination a small knob was felt in the position of the uterus but no trace of ovaries. The secondary characteristics were entirely feminine. It was decided to operate, and this was carried out in the following way on September 27th, 1937.

A hollow vulcanite mould completely closed at both ends had been previously prepared by our dental colleague, Mr. Alexander Kay, roughly the size and shape of a distended virgin vagina (Fig. 2). This was intended to carry the skin graft and to maintain the patency of the vagina during the entire contractile phase. A thin razor graft was first cut from the inner surface of the left thigh where hair was least apparent. This graft was roughly $9\frac{1}{2}$ inches long by $2\frac{1}{2}$ inches broad. The patient was then placed in the lithotomy position and thorough sterilization of the vulva carried out, care being taken to see that the anus was excluded from the operative field. An incision was then made from a point $\frac{1}{2}$ inch posterior to the urethral meatus and carried vertically backwards to a point $\frac{3}{4}$ inch in front of the anus. The plane of cleavage between the rectum and the bladder was then entered and by blunt dissection a cavity established which was

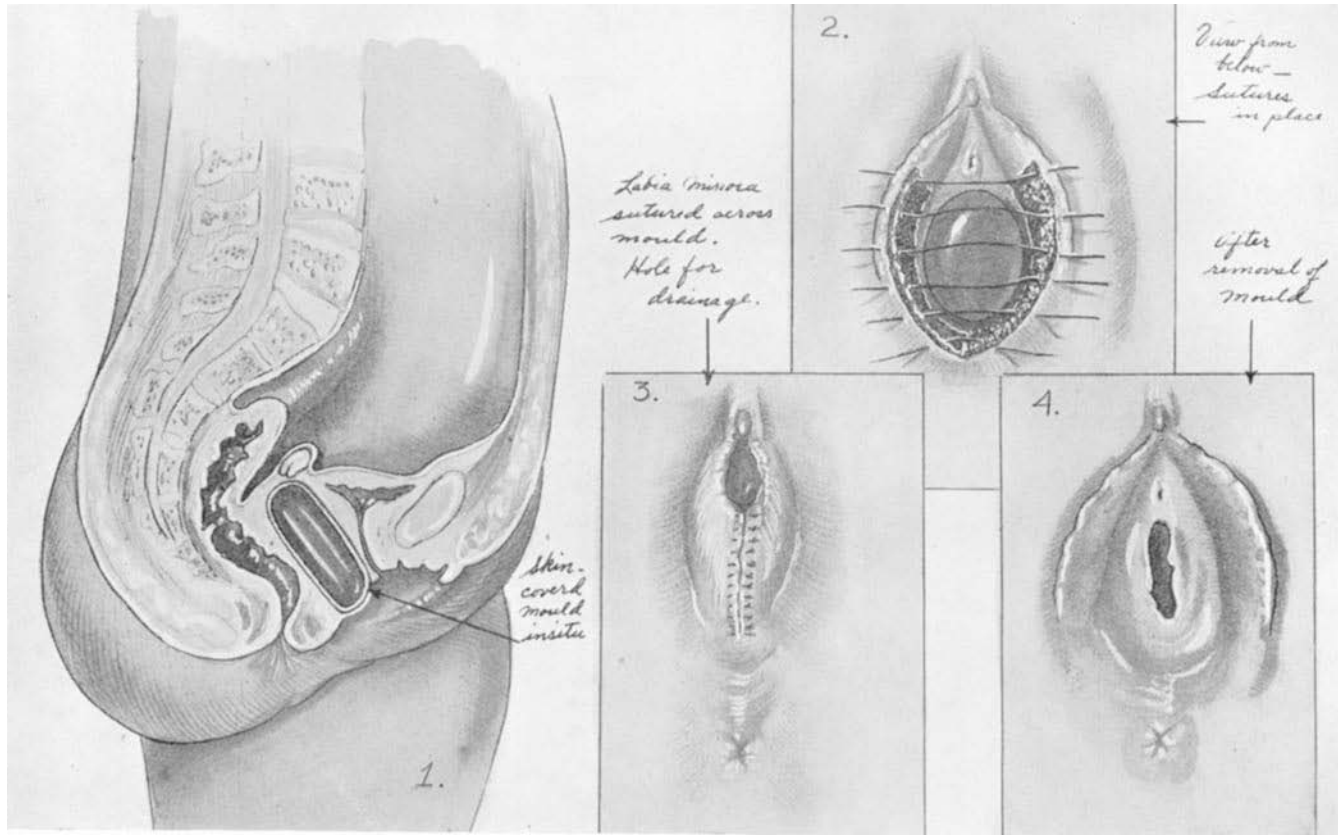

FIG. 1.

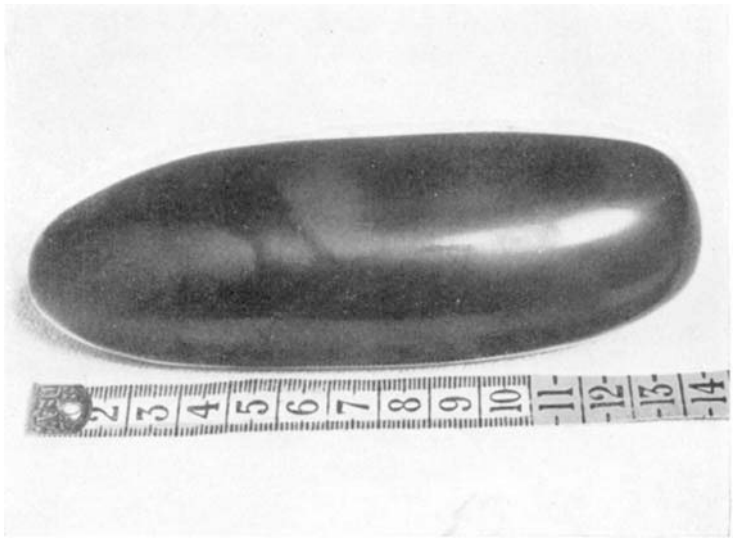

FIG. 2.
HOLLOW VULCANITE MOULD USED TO CARRY THE SKIN GRAFT.

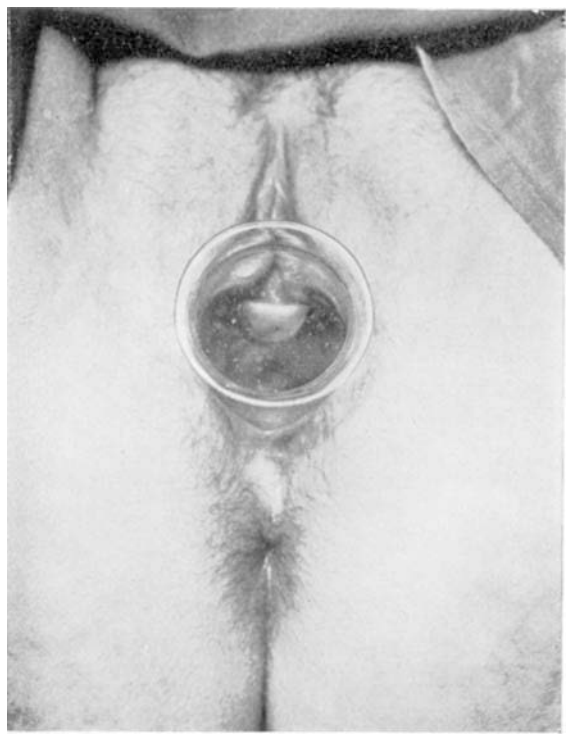

FIG. 3.
SKIN-GRAFTED VAGINA CONTAINING FULL-SIZED GLASS VAGINAL REST FIVE MONTHS AFTER OPERATION.

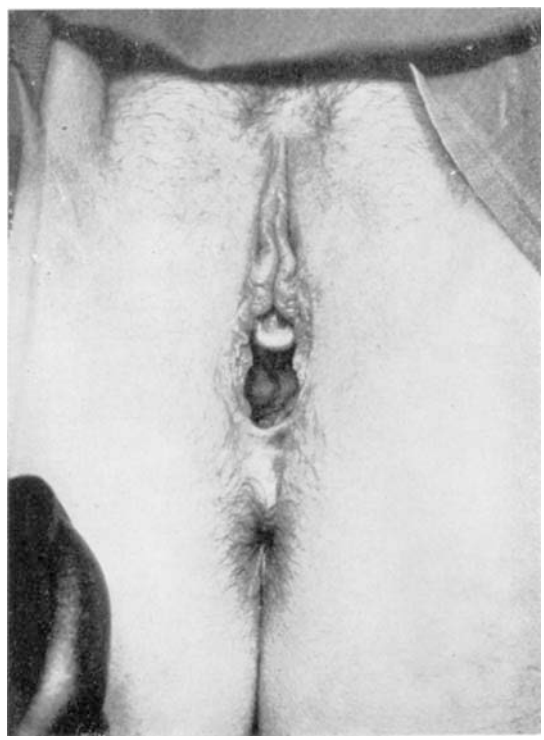

FIG. 4.
APPEARANCE OF THE NEW VAGINA AFTER REMOVAL OF THE REST.

gradually enlarged upwards until it would just accommodate under moderate tension the vulcanite mould previously prepared. Bleeding proved to be almost negligible, and a dry field was easily obtained. The mould was then painted with mastisol and covered with the skin graft, raw surface outwards, in such a way that the combination of adhesive and the lie of the graft prevented the skin rucking off during insertion. The skin-covered mould was finally inserted into the cavity and the labia minora freshened and sutured across its lower end leaving a small hole anteriorly just behind the meatus for drainage.

For 72 hours after the operation the patient required a fair amount of sedative. There was a profuse discharge for the first 10 days after which it gradually diminished in amount, and in 4 weeks had almost disappeared. The perineal wound healed rapidly, all stitches being removed on the tenth day. The bowels were not opened until the eighth day. The temperature rose to 101°F. on occasions during the first 7 days, but became normal on the fourteenth day. She was up on the nineteenth day. After the fourteenth day she noticed that there was some movement of the obturator on turning in bed. She was discharged on the twenty-sixth day to her home in Yorkshire, where Dr. Clarke, of Rotherham, has been in charge of the case. On December 12th, 1937, he reported her condition as follows:

> Getting about is difficult owing to an aching pain which comes on after exertion, but she can sit with comfort on an air ring for 2 to 3 hours at a time. She has no difficulty with bowels or bladder. She feels that the obturator is moving both backwards and forwards, and she thinks there is some rotation. There is a thin yellow discharge which is odourless and not irritating.

On January 13th, 1938, the patient returned to the Chelsea Hospital for Women, and the vaginal mould was removed. The skin graft had taken perfectly everywhere except for a small area at the lower end where it lay in contact with the labia minora. The walls were smooth, white, and soft, and approximated very closely to normal vaginal mucosa. A glass vaginal rest of the largest size was easily inserted into the cavity, and this was worn every night for a further 6 weeks (Fig. 3). For a short time half-strength eusol douches were given daily to disinfect the lower segment where a slight irritation was evident. At the end of 5 months the new vagina was completely healed and did not show any tendency to contraction either in length or breadth. The introitus now admits two fingers with ease and the dimensions of the new vagina are 5 inches by 2 inches (Fig. 4).

COMMENT.

The operation described has now been carried out in three cases, two of which are still in the intermediate stage. Certain modifications have been made in the technique particularly in regard to the size of the obturator, which in the reported case was somewhat large. The patient was not as comfortable during the post-operative period as she might have been. Essentially the principles remain the same. The method, briefly, entails the use of a one-piece razor graft on a smooth vulcanite mould which is buried under tension in the new vaginal cavity so that the graft lies in intimate contact with the surrounding tissues. During the whole period of the contraction, common to all free skin grafts, the mould remains *in situ* and it is not removed until shrinkage can no longer occur. As this is a variable period it is recommended that the mould should be left alone for 6 months and that glass vaginal rests be used nightly until such time as the introitus is soundly healed.

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