

series of 41 cases in the Carmichael, I operated on 18 only with 7 recoveries (39 per cent.).

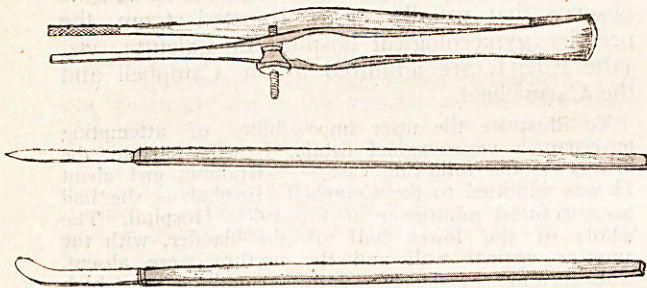
Regarding the technique of an operation for the repair of a vesicovaginal fistula, special attention should be paid to the following details.

(1) Proper position of the patient. An exaggerated lithotomy position with the buttocks raised 8 inches above the horizontal plane.

(2) Proper anaesthesia—Chloroform.

(3) Labia well retracted with temporary silk sutures to the corresponding thigh.

(4) Thorough denudation, with avoidance of hæmorrhage as far as possible. For this purpose I have devised two special knives and a special forceps with 2 to 3 rat teeth. The forceps is provided with a stem with a milled-head screw; which is worked with the fore-finger of the right hand, so that the amount of pressure may be gauged without injury to the tissues, at the same time relieving the fatigue of the fingers inevitable in the operations (*see* Figures).



(5) Proper suture needles and suture material. I prefer the small and medium cleft-palate needles—right, left and rectangular. For suture material, I prefer fine silk-worm gut.

(6) In the after-care, I try, if possible, to avoid leaving a catheter in the bladder.

AN OPERATION FOR THE RADICAL CURE OF CONGENITAL OBLIQUE INGUINAL HERNIA IN CHILDREN.

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HERNIAS in children may be truly congenital, that is existing from birth or may be acquired, that is they may descend later into a patent vaginal process which existed from birth. But both forms are ordinarily termed congenital. Acquired hernia of the type in which the peritoneal sac is pushed down as a result of intra-abdominal pressure may be said to be unknown in the very young. From the average of the reports of various observers of the frequency with which the peritoneo-vaginal process remains patent, it appears that the vaginal process remains unobliterated in 59 per cent. of children during the first four months and in 44 per cent. even during the fifth month. In spite of the fact that the peritoneo-vaginal process remains open in such a large percentage of cases, hernia in a child from

birth is a rare occurrence. All such hernias are ordinarily divided into two kinds, (1) congenital hernia, (2) funicular hernia.

In the descent of the testis through the inguinal canal a fold of peritoneum moves before it. This process of peritoneum is divided into three sections in accordance with its position in relation to the testis. Its lowest portion, which lies in front of the gland itself covering it in front and on either side, is called the vaginal process, the portion of it above the testis and which more or less surrounds the cord, is called the funicular process and the uppermost portion of it which lines the inguinal canal is known as the inguinal process. It is possible for the entire peritoneal canal to remain open and abdominal viscera to be pushed into it. In such an event the viscus lies above and in front of the cord whereas in the scrotum it lies to the outer side and somewhat behind the testis. This form of hernia is known as "congenital hernia." Such a sac shows three fairly marked constrictions at the points where the passage of the sac from the abdomen into the scrotum narrows it down, namely (1) at the internal abdominal ring, (2) at the external abdominal ring, and (3) at the neck of the scrotum.

When the peritoneal canal is closed only just above the testis and epididymis, remaining open in the upper part, a hernia may descend into the upper portion forming what is known as "hernia of the funicular process." In such a case the hernia may later descend to the bottom of the scrotum and it is then difficult to distinguish it from the ordinary congenital variety. But at operation the testis with its tunica vaginalis will be found behind the hernial sac.

It is usual, however, for it to descend up to a point above the testis thus enabling us to distinguish between this form of hernia and the complete congenital kind.

The above considerations permit us to regard all oblique inguinal hernias in children as practically congenital. These sacs are naturally very thin and of fine texture and show no thickening and cicatrization in their walls and are also said to be less adherent to their surroundings.

A congenital hernia is not often strangulated but when strangulated, this strangulation usually occurs during early infancy. It is important, therefore, that it should be operated on at the earliest possible opportunity.

It is maintained by some that if controlled by a truss, a congenital hernia in a child may become cured by itself. But the result is very uncertain. The arguments against such a course of action are that (1) a truss in a baby or a small child is irksome and painful, (2) an intelligent mother or nurse is required to be able to reduce the hernia, to put on the truss and take it off and to know when to put it on and when to take it off, (3) the truss owing to the rapid growth of the child needs to be frequently changed.

The operation that I describe is easily and quickly done without any mutilation of tissues

and may be performed under local anæsthesia with a few whiffs of ether, if necessary. Extensive separation of the sac from its coverings is not called for; nor is it necessary to separate the cord from the sac thus avoiding hæmorrhage, damage to the constituents of the cord and mutilation of surrounding tissues.

Operation.—An incision about an inch and a half long is made immediately over the external abdominal ring and the coverings of the sac are cut down upon anteriorly till the sac is opened. The sac is pulled down till the internal abdominal ring is seen and comes within reach. The distance from the internal to the external abdominal ring in a child is about half an inch. Now, extending the incision of the sac up to the internal ring, evert its edges and pick up with a purse-string suture of fine catgut on a small intestinal needle the wall of the sac at the neck from inside avoiding the cord. I have done this in several cases and have found no difficulty or ill-effects. No damage is done to the spermatic artery, or the vas and there is very little or no hæmorrhage. The purse-string suture is tied and the opening in the lower part of the sac due to the longitudinal incision closed with a continuous fine catgut suture along with the coverings, which have been incised. The skin incision is closed with horse-hair sutures. No bandaging is necessary. The skin sutures are covered with cotton-wool soaked in Friar's balsam and covered over with a piece of gauze kept in place by two or three strips of sticking plaster.

In this method no attempt is made to remove the sac which I consider unnecessary. If it is left alone and not kept open by abdominal contents, being serous its walls will collapse, become adherent and later atrophy. The neck of the sac brought together by purse-string suture will close by adhesions and cicatrization.

REPORT ON SOME CASES OF FIBROIDS AND UTERINE HÆMORRHAGES TREATED BY RADIUM.

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THE usefulness of radium in the treatment of fibroids and uterine hæmorrhages, though quite well known and firmly established in Europe, has not until recently received the same recognition among the practitioners in Bengal. This was mainly due to want of proper facilities for the radium treatment on scientific lines. So far the only institution where radium was available was at Ranchi. The expenses for the journey and for the treatment stood in the way of many patients and they had to go through a lot of difficulties and inconveniences to undertake the long journey to Ranchi. Moreover, the success of radium treatment also depends largely on the co-operation which the radiologist receives from the specialists in different departments. Very often the co-operation of a surgeon, unless the radiologist is also an experienced surgeon, is necessary.

The appendix will show a record of 27 cases of uterine fibroids treated by radium at the Calcutta Polyclinic. Radium is not available at any of the large hospitals in Calcutta, but private enterprise has supplied this deficiency and the Calcutta Polyclinic is now able to undertake radium treatment.

The present paper is intended only to deal with the treatment in cases of chronic metritis, uterine fibroids and menopausal hæmorrhages. The menorrhagia or metorrhagia associated with these conditions respond very satisfactorily to radium treatment.

Methods employed.—The following method which is recommended by Dr. Hayward Pinch was followed in most of the cases:—

The cervical canal is dilated and a tube of 50 milligrams of radium screened with 2 millimetres of lead and 3 millimetres of rubber is introduced into the uterine cavity for 24 to 30 hours.

One such exposure may suffice. If not, one or two more applications may be necessary. If the patient be past the child-bearing period, there is no objection to induction of menopause which usually results after 2 or 3 exposures.

The internal administration may be supplemented by external radiation by flat applicators screened with 2 millimetres of lead and rubber applied over the fundus and ovaries. In some cases, however, as will be found from the appendix, marked improvement followed even in those cases where external application was not made. In some, smaller doses than 50 milligrams were also found effective. For instance, 25 milligrams sheathed in lead and rubber inserted into the uterine cavity by dilating the cervix and kept for 36 to 48 hours gave excellent results.

Menorrhagia.—The improvements so far as menorrhagia is concerned have been found to be as follows:—

The results of treatment were slightly different in cases nearing the menopause from those of younger age. In both classes, in some cases but not in all, there was an increased flow at the next menstrual period. In women past the child-bearing period and nearing the menopause, the successive periods showed a decrease in the flow and in most cases after a month or two, complete amenorrhœa occurred. In younger women, the subsequent periods gradually became normal and in some cases complete amenorrhœa resulted. There is one interesting difference noticed in respect of the latter group. Periods reappear after 6 months or 1 year or in some cases 2 years after the last exposure. In one case as stated in the appendix, the periods not only reappeared but very profuse bleeding set in 6 months after she had an exposure of radium at Ranchi and she improved in health after a second exposure. The periods stopped and there has been complete amenorrhœa since.

Uterine fibroids.—The results so far as uterine fibroids are concerned have been very remarkable. Hæmorrhage, as has been said previously, was controlled in every case. As regards diminution