SURGICAL MANAGEMENT OF CONGENITAL URINARY INCONTINENCE IN THE FEMALE

by

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An interesting case of bifid clitoris with congenital urinary incontinence consulted us and it was deemed worth putting on record in the literature.

Case Report:

L.D., a 14 year old Hindu girl, first attended our private clinic with the complaint of dribbling of urine from birth. The dribbling was continuous, occurring throughout the day and night. She had not yet had her menarche.

Her general health was satisfactory. On abdominal examination, nothing abnormal could be detected. Examination of the external genitalia revealed a uniform distribution of hair growth over the mons veneris. The clitoris was double and each labium minus was seen to curl round the clitoris of its own side (Fig. 1). The rest of the external genitalia was normally formed. Urine was seen to dribble from the site which normally is that of the external urethral orifice. This produced excoriation of the vulval area. On introducing a rubber catheter into the bladder, no urine came out. The cervix and uterus were single. A Foley catheter was introduced and by withdrawing it again up to the external urethral meatus, it was confirmed, by the lack of resistance, that the urethra was absent.

The investigations done were:

1. Blood urea, 28 mg./100 c.c.
2. Intravenous pyelography showed normal functioning of the kidneys and ureters. No anatomical deformities were noted.
3. Plain X-ray of the pelvis revealed an unusual separation of the two pubic bones anteriorly (Plate 1).

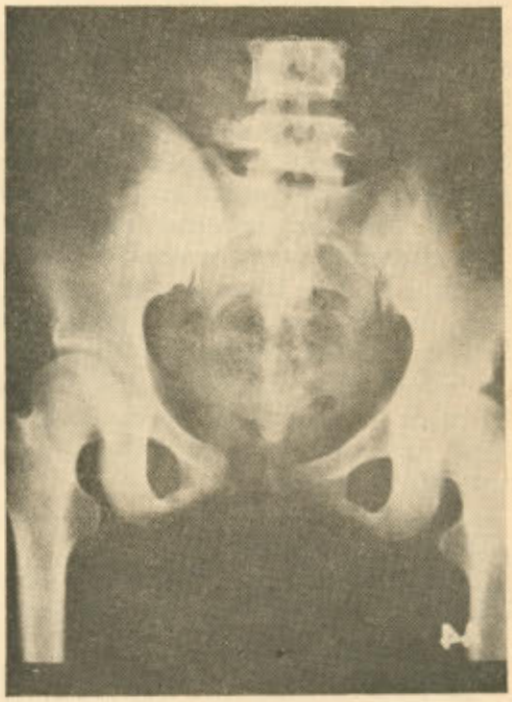

Plate 1

On 4th of March, 1960, when the patient was fit to be operated upon, a Sling operation was performed for the relief of her urinary complaint.

A subumbilical midline incision was made. Two vertical strips of fascia were

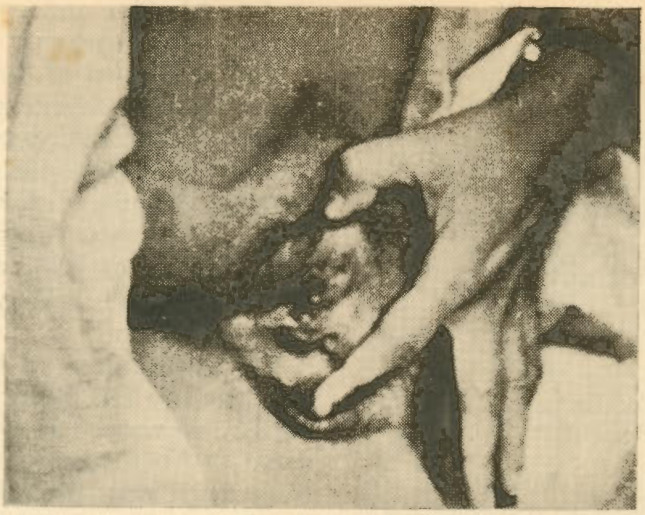

Fig. 1

fashioned from the anterior rectus sheath in such a way that they remained attached at their lower ends. In the meantime, vaginally, a longitudinal incision about one inch in length was made on the anterior vaginal wall starting from a point about ¼ inch below the external urethral orifice; the two flaps of vaginal skin were reflected. With the aid of the fingers, dissection was completed; no evidence of urethral bulb was noticed. Apparently, no urethral tube existed. Subsequently, the musculo-fascial layer, laterally and posteriorly, constituted by the pubo-cervicalis, the fused vaginal and vesical fascia and the fascia of the post-urethral ligament was mobilised and by means of investing stitches buttressed to form the lower portion of the bladder into a tubular channel so that it might act as a substitute for the urethra (Fig. 2).

The inner fibres of the pubo-coccygeus muscle on each side were also brought together in the midline to provide further reinforcement. Through the abdominal incision, the fingers were inserted into the cave of Retzins till they met the vaginal fingers on the lateral side and a groove was thus made. Through the channels thus created, the fascial strips prepared from the rectus sheath were brought down with the help of long curved forceps passed up from below. The strips were made to cross

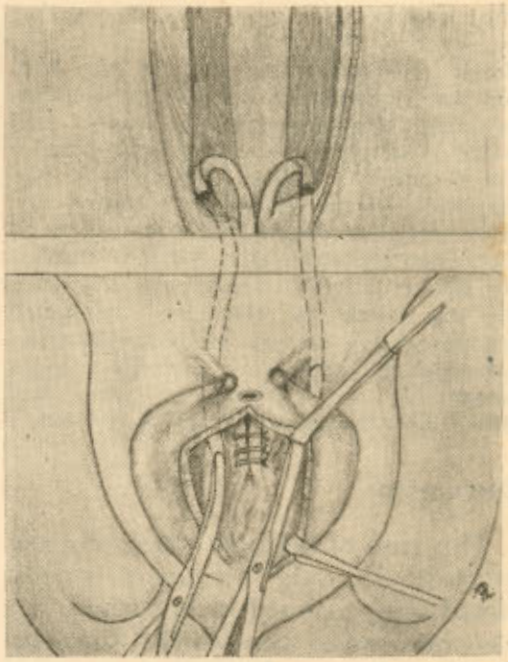

Fig. 2

behind the newly-formed urethra where they were stitched to each other while the free ends were taken anteriorly and stitched to the post-urethral ligament (Fig. 3).

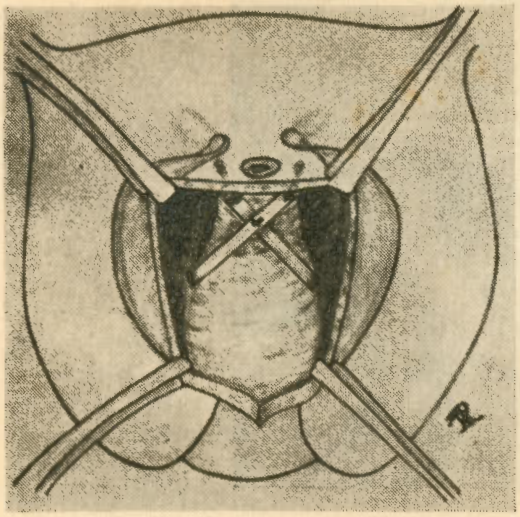

Fig. 3

The vaginal flaps were brought together and stitched. The abdominal incision was closed. An indwelling catheter was kept and was removed on the 10th post-operative day. However, as the patient had retention of urine, the indwelling catheter was re-inserted. When the catheter was removed on the 14th post-operative day, she could void urine herself. It was found that when she strained in order to micturate, she actually failed in the act; but when she was taught to relax her abdominal muscles during the act of micturition, she succeeded in voiding urine. Up to the present day, the patient has never had either incontinence or retention of urine.

Discussion

This case of bifid clitoris is of great interest, not only because it is associated with urinary incontinence but also because of two other features: firstly, whereas Diphallus is more commonly seen in the male, our case is of the female; and secondly, because our case is not associated with other gross congenital anomalies such as extroversion of the bladder, septate bladder and anomalies of the kidneys and ureters.

The condition of bifid clitoris was known to Ballantyne as early as 1896. In 1925, Blair Bell described the case of a girl with bifid clitoris and a large ventral hernia. Again, in 1952, T.N.A. Jeffcoate reported a case of bifid clitoris associated with a large ventral hernia and partial incontinence of urine.

The occurrence of this congenital abnormality has been explained in a variety of ways. It was thought by some to be a manifestation of twinning and was included under the heading of Double Monsters. Others thought it to be an example of atavism, some snakes and lizards having double vulvae. According to Patten, there is a defective closure of the ventral body wall in the midline extending from the umbilicus, through the pubic region, all the way to the perineum. Hence, it is usual to find bifid clitoris associated with exstrophy of the bladder. He further states that each clitoris is really a halved organ which is moulded around, only one corpus cavernosum with the urethra and the corpus spongiosum urethrae wanting. Presumably, in the case here presented, either the urethra is absent or the urethra is present but defective not only at the internal sphincter mechanism level but also throughout the urethra and in the region of the compressor urethrae. Either of these two postulations will account for the continuous dribbling of urine. It is regretted that investigations necessary to determine the mechanism at fault could not be undertaken.

In this case a combined vaginal and abdominal operation was performed

so that by the vaginal route we could mobilize tissues to reconstruct the urethra from the lower part of the bladder. We are not aware of any surgical management of a condition like the one presented. The aim of the operation was to design a urethra from the lower part of the bladder itself with the aid of the surrounding fascial and muscular tissues. Having constructed some sort of a urethra, the next problem was to keep her continent and also to enable her to void urine when the bladder was full and she had a desire to micturate. This could not be achieved on the face of the incomplete type of urethra and consequently the urethro-vesical junction that was possible to construct. Therefore, the sling was designed to produce an angulation at the constructed urethro-vesical junction. Further assistance to the fascial sling was provided by the contractions of the rectus abdominis muscles during rises of intra-abdominal pressure. In addition, the inner fibres of the pubo-coccygeus, which were brought together in the midline, lent further support as a muscular sling. The compression of the reconstructed urethra on acts of strain and exertion was complete because of the attachment of the musculo-fascial sling right up to the post-urethral ligament. It was so perfect that even a forceful voluntary act resulted in retention of urine. This was overcome by teaching the patient the method of relaxing the abdominal and vaginal muscles on attempting to void urine.

Summary

A case of bifid clitoris and congenital urinary incontinence is presented.

The abdomino-vaginal operation performed for the relief of urinary incontinence is described. Musculo-fascial tissue is used to buttress the posterior urethro-vesical junction, the pubo-coccygeus muscle is used to form a muscle sling and the anterior rectus sheath to form a fascial sling for the urethra. The patient was trained in the act of relaxation of the abdominal muscles in order that she might void urine.

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