HYDROMETROCOLPOS

by

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Hydrometrocolpos is a rare condition in which the vagina and the uterus are enormously distended with mucoid fluid. An imperforate hymen or vaginal atresia is the usual associated causative anomaly. Vaginal obstruction alone will not produce hydrometrocolpos. Excessive secretion from the uterine and cervical glands under the influence of oestrogens absorbed from the mother is the other essential factor. Vaginal obstruction is usually diagnosed around puberty when retention of menstrual blood produces haematocolpos, a relatively common condition. Spencer (1962) collected 59 cases of hydrometrocolpos from the literature since 1900 and added 3 of his own. The relative rarity of this abnormality and the tragic results which may follow its wrong diagnosis and treatment have prompted the report of the following case:—

Case Report

A.K., 4 months old, full term female infant, was admitted in June, 1966, with the main complaint of difficulty in passing urine since birth. She did not pass urine for 3 days after birth and it was also noticed at that time that there was no vaginal orifice. According to the parents, she strained a lot during micturition and urine came out in drops, rather than in a proper stream. On a couple of occasions, she had to be even catheterized. In addition to these urinary symptoms, the parents had noticed a gradually increasing swelling in the lower abdomen for about 2 months. It was quite painless and did not seem to disturb the infant.

Examination revealed an active healthy baby, weighing 12 lbs. There was a firm, globular, painless mass in the hypogastrium, extending almost to the umbilicus (Fig. 1). It appeared like a distended urinary bladder. In the perineum, the anus was normally situated. On separating the labia majora, no vaginal orifice was seen. A tense, cystic mass presented at the introitus and became more prominent on pressing the suprapubic swelling (Fig. 2). The urethral orifice was displaced anteriorly and was recognised with some difficulty. Rectal examination revealed a cystic mass filling the pelvis.

A provisional diagnosis of hydrometrocolpos, due to an imperforate hymen, was made.

Under general anaesthesia, the urinary bladder was catheterised and about 15 cc of clear urine withdrawn without any effect on the abdominal mass. A needle was inserted through the bulging vulval membrane and some dirty white mucoid fluid came out with diminution in the size of the suprapubic swelling. This observation further substantiated the diagnosis of hydrometrocolpos. The membrane was incised and about 300 cc of fluid gushed out. The hypogastric mass disappeared and the vaginal cavity became easily visible and was dilated with a haemostat (Fig. 3). Redundant membrane was excised.

The improvement in the baby's condition was really remarkable. For the first time since birth, she started passing a normal stream of urine without any effort.

Examination of the hydrometrocolpos fluid showed keratinized, glycogen containing epithelial cells like those in an

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Received for publication on 2-7-1969.

adult vagina, indicative of the hormone effect.

Due to some unavoidable circumstances an intravenous pyelogram to show any pressure effects on the ureters and kidneys could not be done.

The baby has been seen in the outpatient department on a few occasions and remains quite symptom free. There has been no evidence of re-stenosis of the vaginal opening, which happens sometimes.

Discussion

Pathology:—The basic lesion in hydrometrocolpos is vaginal obstruction which may be due to an imperforate hymen or atresia in the lower portion of the vagina. Amongst the 62 cases reviewed by Spencer (1962) more than half were due to an imperforate hymen. Excessive secretion from the uterine glands under the influence of oestrogens absorbed from the mother produces in the presence of this anatomical defect the enormous distension of the vagina and uterus (Gross, 1953). Enlargement of breasts of female infants with secretion of 'witch's' milk have a similar basis.

Though the enormously distended genital canal is the main pathology in hydrometrocolpos, the various symptoms and complications develop as a result of pressure on the neighbouring organs. Pressure on the urethra with elongation and angulation, results in urinary obstruction and other urinary symptoms. Pressure of the distended vagina on the ureters results in bilateral hydroureter and hydronephrosis (Fig. 4). Though less commonly involved, pressure on the rectum may result in constipation or even intestinal obstruction. The enormous abdominal distension may sometimes cause severe respiratory embarrassment. Compression of the inferior vena cava and iliac veins may produce oedema over the perineum, lower limbs and abdominal wall.

Other congenital anomalies are also occasionally associated with hydrometrocolpos.

Clinical features:—The condition usually presents as a lower abdominal mass which may sometimes extend upto the costal margin. It is mistaken for a distended urinary bladder but fails to diminish in size after catheter drainage. As in the present case, urinary tract obstruction is the commonest associated symptom. Thirty-six out of 62 patients reviewed by Spencer (1962) had involvement of the urinary tract, either alone or in combination with other systems.

Careful examination of the genitalia will show a tense, bulging membrane at the introitus in cases of imperforate hymen. In cases of vaginal atresia, the normal vaginal orifice may be retracted upwards by the enlarging upper vagina. The true nature of the lesion may be missed unless a careful examination is made with a speculum. Rectal examination reveals a cystic mass, filling the hollow of the sacrum.

Diagnosis and treatment:—If the condition is borne in mind a correct diagnosis can be made after a careful physical examination and substantiated by X-ray examination. If a bulging membrane is seen at the vulva, aspiration of fluid and injection of radio-opaque contrast medium will outline the enormously distended vagina and uterus. An I.V.P. may show bilateral hydroureter and

hydronephrosis with anterior and superior displacement of bladder.

If a laparotomy is inadvertently done before diagnosis is made the presence of ovaries and fallopian tubes on the top of the cystic mass will indicate the true nature of the lesion and prevent an unfortunate excision of the uterus and vagina which has been reported (Spencer and Levy, 1962).

As in the present case, where a bulging membrane is easily accessible from below, all that needs to be done is simple incision followed by excision of the membrane. When the obstructing lesion is somewhat higher in the genital canal, an abdomino-perineal approach is recommended to avoid injury to the urethra and rectum which are very close to the obstructed vagina (Gross, 1953). Some people even advocate leaving a rubber tube along the newly created vaginal passage for a couple of weeks.

Summary

A case of hydrometrocolpos is presented with a brief discussion of its pathology, symptomatology, diagnosis and treatment.

My thanks are due to the Photography Department of Bhilai Steel Plant and Mr. M. N. C. Pillai for Secretarial help.

References

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2. Spencer, R. and Levy, D. M.: Annals of Surgery, 155: 558, 1962.

See Figs. on Art Paper VI