VESICAL CALCULUS AS A CAUSE OF LABOUR DYSTOCIA

Report of a Case

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Reports of cases of calculus of the bladder obstructing labour are difficult to find in the literature, probably because this is an extremely rare phenomenon. Smellie has recorded a case of a large calculus which was forced out of the bladder during labour, resulting in a permanent fistula. In his monograph on the subject in 1875 Hugenberger referred to 23 cases. In many of them great injury occurred, while in others the tumour was removed during labour or pushed out of the way (quoted by Chassar Moir³). McClintock⁴ refers to a case in which a large stone was removed from a woman seven months pregnant, without disturbing the pregnancy. Very few cases have been recorded in recent years but Bride^{1,2} reported one in which a vesical calculus was diagnosed accidentally on a prenatal X-ray. As it lay below the presenting part and could not be pushed above it, Caesarean section was performed, to avoid damage to the bladder during labour. Later the stone was removed; it weighed 4 oz. and measured 6.5 by 6 cm. The condition of vesical calculus obstructing labour is so rare that the following case appears to be worth recording.

Case Report

A 25-year-old patient, pregnant for the third time, was admitted to hospital in labour at 10.30 p.m., on August 31, 1957, as an emergency. Her pregnancy had been uneventful. According to her menstrual history she was at full term. Labour pains had begun a few hours earlier in the evening and the membranes had ruptured on the way to the hospital.

She had previously given birth normally to two children. She had experienced pain during micturition for the past three months and had passed blood-stained urine several times in the last month. She gave no history of any other symptoms such as frequency of micturition or fever with rigors. General examination of the patient showed no abnormality apart from a slight degree of avitaminosis as evidenced by angular stomatitis. There was no oedema of the feet. Her blood-pressure was within normal limits. Traces of albumin were present in the urine on ordinary examination. Obstetric examination showed the uterus to be full-

FIG. 1.—This illustration of the patient shows the external appearance of the vulva during the second stage of labour. The foetal head is pushing the calculus in the bladder downwards out of the vagina. (From the Government Women and Children's Hospital, Egmore, Madras.)

term in size and contracting very vigorously. There was supra-pubic fullness due to a partly distended bladder. The foetus was longitudinal in lie, vertex in presentation and left occipito-anterior in position. The head was well fixed and almost engaged. The foetal heart was audible in the left lower quadrant of the abdomen. Vaginal examination showed the vulva to be healthy. The urethra was displaced anteriorly and was patulous. A tumour was present on the anterolateral aspect of the vulval orifice, lying between the pubic ramus and the foetal head. The tumour seemed to be within the anterior vaginal wall. The foetal

FIG. 2.—This X-ray of the patient taken in the post-natal period demonstrates the presence of a large vesical calculus showing a laminated structure. There is also some degree of diastasis of the pubic symphysis which in the absence of clinical signs of trauma was considered to be a normal feature of pregnancy. (From The Government Women and Children's Hospital, Egmore, Madras.)

head was being driven down by strong pains against this tumour, which was bony hard in consistency and fixed. The membranes were absent; the cervix was fully dilated. The foetal head was in the left occipito-anterior position and below the ischial spines and visible between the labia (Fig. 1). There was no caput. Some amniotic fluid was draining but it was not stained with meconium. The pelvis seemed to be normal.

An attempt was made to catheterize the bladder with a metal catheter but when it was introduced it was deflected to the left side and would not enter the bladder. It grated against a hard object within the bladder. The cause of obstruction to labour was believed to be a vesical calculus. Because the head was so low in the pelvis and the pelvis was otherwise normal it was decided to effect delivery with the aid of forceps over a generous episiotomy. After suitable premedication with atropine the patient was given an anaesthetic. Under the effect of anaesthesia there was relaxation of the voluntary muscles of the abdominal wall. By pushing the head up slightly a catheter was easily introduced into the bladder. About 8 oz. of turbid urine were withdrawn. It was obvious on examination that this hard tumour was actually lying within the bladder and that it was freely mobile. However, it was not possible to push the calculus above the level of the foetal head. A right mediolateral episiotomy was made and a Milne-Murray forceps applied. A live but asphyxiated female child weighing 6 lb. 5 oz. was delivered. The child was easily revived. The third stage was normal. The placenta was healthy. The episiotomy wound was repaired.

The patient's convalescence was complicated only by slight puerperal pyrexia and acute retention of urine which proved a little troublesome. The pyrexia responded to the exhibition of antibiotics. Periodical catheterization finally overcame the retention of urine.

An X-ray taken in the post-natal period confirmed the presence of a large ovoid calculus in the pelvis which showed the typical laminated structure of a phosphate stone (Fig. 2). There was also evidence of wide separation of the pubic symphysis. As there was no clinical evidence of any injury, it was thought that this diastasis of the pubic symphysis could be accepted as being within normal physiological limits for pregnancy. When she had fully recovered from the effects of childbirth the patient was advised to have the stone removed, a suggestion which she politely and firmly declined and later emphasized by taking her own discharge from the hospital abruptly one day.

Comment

Vesical calculus is an extremely rare complication of pregnancy. Although urinary tract sepsis is so common it is strange that calculus formation should be rare. Even when a calculus forms it must indeed be exceptionally rare for a vesical calculus to reach such a size as to make delivery difficult. In this case the calculus was of appreciable size. In view of the vigorous uterine contractions it is probable that if the patient had neglected herself further the calculus might have been finally expelled from the bladder through the vagina in advance of the foetal head. This patient would then have been left with a permanent fistula like the one reported by Smellie. The diagnosis of calculus as the cause of labour dystocia is not very difficult to make. A preceding history of urinary symptoms, the characteristic position and consistency of the tumour and its presence within the bladder are all helpful signs. The last sign may be easily confirmed by introducing a metal catheter into the bladder. When the calculus has become firmly wedged in between the pubic bone and the foetal head it can simulate a bony neoplasm of the former. However, with a careful examination under anaesthesia this mistake need not be made. If the calculus is very large and the head has not descended it would seem justifiable to deliver the child by Caesarean section, thus avoiding the risk of damage to the bladder. However, when the head is well down in a pelvis which is of generous proportions there can be little harm in attempting the delivery with the aid of forceps, provided a generous episiotomy is made.

There is little dispute that any stone in the bladder requires to be removed, but the ideal time for its removal is a matter for controversy. A stone could be removed by vaginal cystotomy or later by supra-pubic cystotomy. In the case of small stones there may be a place for crushing them and removing them with a lithotrite, but small stones rarely complicate labour.

Addendum

This patient has again been admitted in

advanced labour obstructed by a vesical calculus. A vaginal cystolithotomy was performed and a live child delivered by forceps. Recovery was uneventful.

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