INADVERTENT POSTERIOR LOWER SEGMENT CAESAREAN SECTION IN A SACCULATED UTERUS

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INTRODUCTION

Sacculation of the pregnant uterus is a very rare clinical entity there being only about 38 cases reported in the world literature. We present what we think is the first reported case in Malaysia and the difficulties encountered with the diagnosis and delivery.

CASE REPORT

Our patient was a 32 year old Chinese housewife, G1 PO LMP 5.1.80 and EDD 12.10.80. Her menstrual cycles were regular. She was referred by her G.P. at 15 weeks gestation for further management as a case of early pregnancy with a pelvic mass. She suffered from occasional urinary retention over the previous month prior to admission and could not micturate in the squatting position but only when standing. In her previous medical history she had dysmenorrhoea for the past 7 years but no menorrhagia.

On examination she was generally well. Abdominal examination showed uterine size to be about 24 weeks gestation. Uterus felt irregular. Foetal heart beat was detected with Doptone. Vaginal examination showed normal vulva and vagina. The cervix was healthy but pushed markedly upwards behind the symphysis pubis by a mass in the lower posterior aspect of the uterus, which distended the posterior fornix. This was thought at the time to be a posterior cervical fibroid. The whole mass was indistinguishable from the uterus. Rectal examination confirmed the mass pushing the rectal mucosa posteriorly but this was otherwise intact.

Patient was treated conservatively as a case of multiple fibroids in pregnancy. Her antenatal progress was relatively uneventful. An ultrasound scan done at 26 weeks gestation showed a single foetus, cephalic presentation BPD 65 mm.

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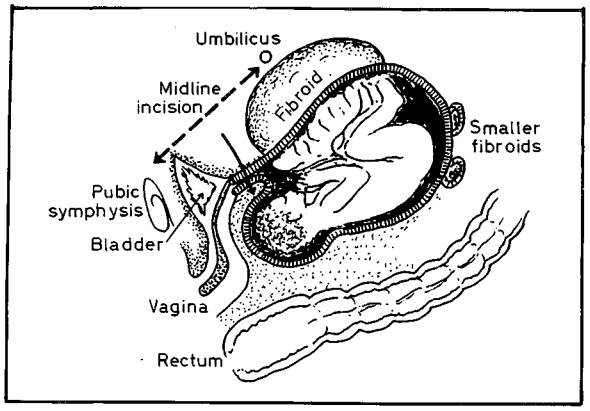

Fig. 1 Diagrammatic saggital view. Arrow shows path taken by the Surgeon.

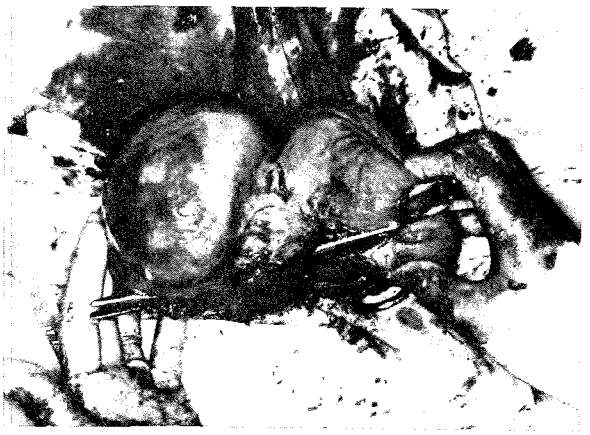

Fig. 2 Photograph shows side view of fibroid and uterus. The fibroid is on the left with the collapsed uterus on the right. The tip of the artery forceps protrudes through the incision at the cervix posterior aspect of the uterus.

corresponding to gestational age of 24½ weeks. Placenta was situated in the right lateral uterine wall extending down to the lower segment. It was not possible then to confirm the presence of the posterior cervical myoma which was felt on clinical examination.

At 35 weeks gestation patient was admitted for raised BP of 150/100mmHg. There was no oedema nor proteinuria. Her haemoglobin was 8.6gm%. Her BP settled down to 140/90 in the ward and she was given total dose infusion of imferon for iron deficiency anaemia. Abdominal examination then showed uterus about term size with a large anterior fibroid measuring about 15 cm by 8 cm.

Three days after admission 12.9.80 she developed abdominal pain associated with regular uterine contractions. On vaginal examination the cervix could not be visualised but could be felt displaced anteriorly high behind the symphysis pubis. The vertex was distending the posterior fornix at station +1. The posterior lower uterine segment was felt to be saccculated and thinned out and an emergency lower segment Caesarean section was decided upon to prevent uterine rupture.

At operation a subumbilical midline incision was made. A massive fibroid measuring about 16cm long and 12 cm across occupied almost the whole anterior wall of the body of the uterus and appeared to encroach on the lower segment (see diagram). There was no room to go above the fibroid without necessarily making a large incision up to the xiphisternum. As the fibroid extended laterally close to the broad ligament there was no room to do a lateral classical incision. However there appeared to be about 5 cm of lower segment beneath the fibroid. The vertex could be felt clearly through this layer. The uterovesical peritoneum was divided and the bladder pushed inferiorly. A transverse incision was then made through what was thought to be the lower segment just below the fibroid. As the incision was deepened in the middle there was heavy bleeding giving the impression of going through an anteriorly placed placenta. The incision was deepened till the amniotic sac was encountered. The incision was widened digitally and a live male infant delivered in good condition Apgar 8 at 1 min and 10 at 5 mins. The baby weighed 2.7Kg. The placenta which was situated on the right lateral aspect of the body of the uterus was delivered by controlled cord traction.

On inspection of the uterus after delivery it was discovered that we had gone though the stump of the undilated supra vaginal cervix to deliver the baby i.e. through a posterior lower segment incision and through the paracervical tissue. As the uterus was thus completely transected at the cervical level, a hysterectomy was performed with removal of cervical stump.

Patient was transfused 1.5 litres of blood and her post operation recovery was uneventful.

Histopathology confirmed that the transection was at cervical level and the diagram illustrates the path taken by the surgeon.

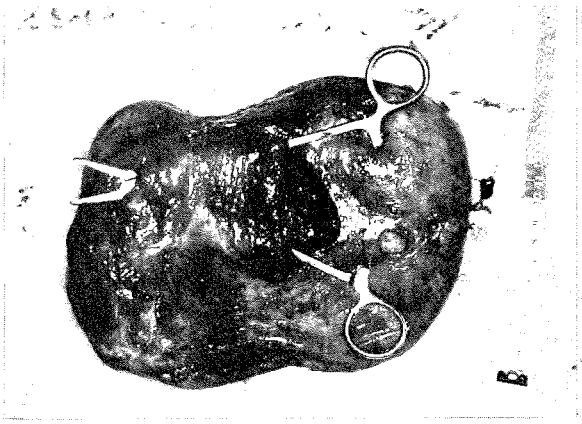

Fig. 3 Photograph of posterior aspect of uterus showing the cervical and posterior segment incisions. Note that the sacculation has completely reduced, drawing up the posterior segment incision which was initially just below the cervical incision.

DISCUSSION

Sacculation of the uterus is a very rare clinical entity. In an excellent review by Weisberg and Gall in 1972, they reported including theirs, only 38 cases in the world literature. It is a functional malformation and disappears after delivery of the baby. It needs to be differentiated from the term diverticulum which is a permanent structure. Ranney (1956) considered a diverticulum to be an outpouching of the uterus with a narrow neck while Rudolph (1940) considered a sacculation to be a diffuse ballooning out of some portion of the uterus. Apparently sacculation can occur over any aspect of the uterus. In the cases reviewed to date (Weisberg and Gall, 1972), it commonly occurs in Primigravidas. The condition is rarely diagnosed predelivery which adds to the difficulties of management.

The majority of cases underwent operative delivery. Adding our case to the list makes 39 cases, out of which 29 had operations. There were 14 Caesarean Sections, 6 Caesarean Sections followed by hysterectomy and 9 underwent laparotomies. There was one infant born with multiple congenital abnormalities. There were 4 maternal mortalities all following the hysterectomies but these deaths occurred before the era of antibiotics and blood transfusion. In 18 cases the placenta was found in the sacculation.

Various theories were described to account for this condition. The Embryologic theory (Hess 1950, Palmer 1951, Pierce 1958) contended that the Mullerian ducts failed to fuse completely giving rise to sacculation. However, this would only account for midline sacculations, whereas they can occur over any site of the uterus. A Trophoblastic effect was also put forward by Ranney (1956), Hess (1950) and Pierce (1958). They theorised that excessive enzymatic digestion of the uterine wall leads to weakness and consequently sacculation. Smith (1962) and Wood (1967) thought sacculations were caused by retroverted impacted uterus. As the anterior uterine wall distends to accommodate the growing foetus, the posterior wall forms a sacculation for the otherfoetal pole. Consequently, the cervix becomes displaced upwards above the symphysis pubis. A posterior sacculation resulting from adherent retroversion was said to be the commonest variety. Other theories include partial uterine rupture, pressure from an enlarging retroplacental blood clot, faulty innervation of uterine musculature, weakness after curettage, caesarean section, myomectomy, adenomyosis and fibroids. However, all the theories do not explain why the sacculation returns to normal after delivery, why there is no recurrence in subsequent pregnancies and why it tends to occur in primigravidas.

The diagnosis of sacculation is often made by exclusion usually at laparotomy for ectopic pregnancy or at Caesarean Section done for dysfunctional labour. Some others (Weisberg and Gall, 1972) have used amniography for diagnosis. With increasing use and expertise with ultrasound perhaps this may improve pre-operative diagnosis. Although in our case the diagnosis was made pre-operatively, its significance was not fully appreciated till after Caesarean hysterectomy.

Greenhill (1965) recommended that if at laparotomy to exclude ectopic pregnancy in the first trimester, a sacculated pregnancy is found it can be left alone and the pregnancy will continue normally. Lash (1951) allowed 2 patients to go to term and they delivered vaginally after the sacculation was massaged and reduced at exploratory laparotomy in the second trimester. Jarvis (1951) felt the uterus would rupture with resulting massive haemorrhage because vaginal delivery was impossible as the cervix would not dilate. Wood (1967) advised Caesarean section as the cervix was displaced above the symphysis pubis. It is interesting to note that while most of the

references advise Caesarean section, there is not a single case of ruptured uterus due to uterine sacculation.

To summarise the essentials of management, in early pregnancy leave the sacculation alone till term. If the cervix is displaced behind the symphysis pubis and the lowermost part is the sacculation then elective Caesarean section is recommended. Extreme caution is advised in identifying the lower segment, as this could be the stretched out vaginal fornix and paracervical tissue. These tissues can be so thinned out that the baby's head can be felt very clearly through it as illustrated by the above case. With special reference to our case, it is difficult even in retrospect to recommend a solution. One could extend the incision to the xiphisternum and flop the uterus forwards to expose the posterior aspect. Subsequently a posterior classical or lower segment transverse section could be performed. If the anterior fibroid did not reach up to the lateral aspects of the uterus perhaps a lateral classical incision could be made. Another way is to enucleate the fibroid and then proceed with Caesarean section. However, the risks of torrential haemorrhage will probably deter most surgeons.

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