Symphysiotomy: An Occasional Life-Saving Emergency Obstetric Procedure in Developing Countries.

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Abstract

A case of labour obstructed in advanced stage with a live fetus, in a severely anaemic and extremely poor patient seen at a referral centre is reported. She could have benefited from immediate blood transfusion and emergency caesarean section, but blood was neither available in the centre, nor could be readily purchased. She was alternatively and successfully managed with symphysiotomy, thus avoiding the possible complications of caesarean section and the possibility of uterine rupture had labour been allowed to continue while blood was awaited or from a weak scar in future pregnancies. Symphysiotomy is hereby acknowledged as a life-saving emergency obstetric procedure and therefore recommended

Key Words: Labour, Fetopelvic Disproportion, Symphysiotomy [Trop J Obstet Gynaecol, 2003, 20: 161-163]

Introduction

Pregnancy and childbirth remain perilous for women in developing nations [1], with high maternal mortality despite strenuous efforts to reduce it. At present, 99% of maternal deaths occur in developing world, and 8% of those deaths are the result of obstructed labour [2, 3]. "Emergency Obstetric Care" (EMOC) was introduced to combat the major causes of high maternal mortality [1, 4, 5]. EMOC has been applied in many communities in the developing world with some success, yet maternal mortality rates continue to be very high in some communities that adopted the model [1, 4]. This is probably due to a presupposition that the facilities for EMOC will be readily available in designated referral centres. This may not always be the situation, hence the need for symphysiotomy in the case presented here.

Case Report

Mrs. A. M. was an unbooked 19-year old illiterate housewife and peasant farmer of Nupe ethnicity and a Moslem. She was Gravida 2, Para 1^{+0}, none alive. Her first pregnancy in 2001 ended in obstructed labour at term, with eventual delivery of a macerated stillbirth after being in labour for 4 days. She was admitted into Federal Medical Centre Bida in April 2002, following referral from a private maternity home. Her index pregnancy had been carried to term and she did not receive antenatal care. Spontaneous labour commenced about 48 hours prior to admission. She remained at home for about 24 hours before she went to the maternity home. She was referred as a result of her inability to deliver vaginally despite "good" uterine contractions and augmentation of labour with 2 intramuscular injections of pitocin 12 hours apart within the 24 hours prior to admission.

She was very pale clinically. The fundal height corresponded to 38 weeks intrauterine gestation, the fetal lie was longitudinal, presentation cephalic, head 3/5 palpable and the fetal heart rate was 158 beats per minute. Vaginal examination revealed a fully dilated cervix, which was poorly applied to the fetal presenting part. The presenting part was vertex at station 0 and there was severe moulding and caput succedaneum. A diagnosis of prolonged obstructed labour with a live fetus, was made. Resuscitation commenced with intravenous fluids and antibiotics and she was booked for an emergency caesarean section.

Her haemoglobin was 3.4g/dl (haematocrit of 10%), she was of blood group A (Rhesus D+ve) and had proteinuria and ketonuria. Blood could not be cross-matched for transfusion as there was no blood in the blood bank, the patient's relatives were unfit to donate and the patient and her family did not have the wherewithal to purchase blood outside the institution. The dilemma was resolved by performing immediate symphysiotomy, with the delivery of a live male infant. The baby weighed 3.2 kg and had Apgar scores of 6 and 8 at one minute and five minutes respectively. The third stage of labour was managed actively by use of intravenous oxytocics and the estimated postpartum blood loss was less than 100 millilitres.

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The baby was resuscitated and admitted into the paediatric ward where he had a smooth recovery under the care of the paediatricians. The mother was continued on antibiotics, analgesics and haematinics. The first pint of blood was transfused on the 3rd day postpartum. She subsequently had a total of four units of blood transfused, which brought her haemoglobin to 6.9g/dl. She was continued on oral haematinics. She became ambulant on the 5th day postpartum and her indwelling urethral catheter was removed on the 12th day. She was counselled and discharged on the 14th day. At follow-up six weeks later she did not have any complaints or complications. Her baby was thriving well on breast milk. Her clinical condition was good and she had haemoglobin concentration of 9 .2g/dl. S he w as c ounselled and continued on haematinics.

The Technique of Subcutaneous Symphysiotomy.

The procedure of symphysiotomy [6, 7, 8, 9] requires a few instruments: gloves, catheter, scalpel, needle holder, dissecting forceps and scissors.

The patient is placed in the lithotomy position, with each leg supported by an assistant, the angle between the thighs never being more than 80°. The lower abdomen and perineum are cleansed and the patient draped. The bladder is catheterised and the catheter is retained therein. A local anaesthetic (5-10ml) is injected around and into the symphysis and the perineum anaesthetised at the site of intended episiotomy. The left index finger is inserted into the vagina to lie under the joint and to push the urethra (catheter) to one or other side. Using a solid-bladed scalpel, the joint is entered by a stab-incision in the midline at the junction of its upper third and lower two-thirds and the lower part of the joint traversed with the blade until its tip is felt to impinge on the vagina by the underlying finger. The uncut upper third of the symphysis serves as a fulcrum against which the blade is levered to incise the lower two-thirds. The blade is retrieved and rotated through 180° and then re-inserted to cut the remaining upper third. A generous episiotomy is given and the legs adducted as the head crowns.

The baby is delivered by spontaneous or augmented uterine contractions; gentle vacuum extraction is permissible if needed. After d elivery of the baby and the placenta, the symphysis i s compressed by the thumb above and index finger beneath to express blood clot and promote haemostasis. The lower genital tract and the uterus are explored and inspected before closure of the skin incision at the symphyseal site and repair of the episiotomy. Thereafter, the woman's knees are strapped together and she is nursed on her side as much as possible.

Discussion

Maternal mortality is s till very h igh in developing countries, and obstructed labour has been identified as a major contributor [1, 2, 3, 4]. If modern technology were readily available in developing countries, there would be no need to look for alternative strategies [9]. If our women make use of available obstetric services, most of these cases of dystocia can be prevented with good case selection during the antenatal period or successfully managed by emergency caesarean section when the fetus is still alive [10]. However, most of these women are very poor, have high fertility rate, are unlikely to make use of antenatal services and more likely to present late and in a p oor state of h ealth when in labour. They also have a strong aversion to caesarean section and are very unlikely to make use of antenatal care facilities in s ubsequent pregnancies, even with uterine scars and the possibility of uterine rupture [10].

The case presented posed a management dilemma. She had poor obstetric history, was unbooked and presented very late in l abour with t he c ervix fully dilated and the fetus still alive. She also had severe anaemia and uterine infection, factors known to increase morbidity and mortality if not tackled prior to or concurrently with caesarean sections [6, 7]. Though resuscitation was commenced immediately with intravenous fluids and antibiotics, the probability of getting blood for transfusion within a reasonable time was practically non-existent. Performing caesarean section on t he patient under those conditions was simply too dangerous, though her c hild m ay have been saved. The a ccoucheur, who had a reasonable experience with symphysiotomy applied his knowledge in resolving the dilemma.

Symphysiotomy is a minimally invasive emergency obstetric procedure, which aims at division of the symphysis pubis late in the first stage of labour or in the second stage, to relieve obstruction and effect delivery of a **live fetus** [6, 7, 8, 9, 11]. The indications include mild to moderate cephalopelvic disproportion with the fetus presenting cephalic and the cervix more t han 7 c m d ilated, o r where t he aftercoming head of breech is entrapped [6, 7, 8, 11, 12, 13, 14, 15]. Proper case selection is important as this can virtually eliminate complications [9, 12]. The procedure is best and most simply performed under local anaesthesia, though epidural, spinal or general anaesthesia are

also suitable [7]. The use of local anaesthesia prevents the complications of regional and general anaesthesia. Subcutaneous symphysiotomy prevents osteitis pubis [6, 7]. Strict adherence to protocol [6, 13] prevents damage to the pelvis, bladder, urethra and anterior vaginal wall. Aseptic technique and antibiotic prophylaxis help to prevent infection. The assistants maintain an acute angle between the legs and prevent abduction during any stage of and after the procedure to prevent straining the sacro-iliac joints. The urethral catheter drains the bladder and highlights the urethra. The left index finger in the vagina pushes the urethra away from danger and guides against intrusion of the blade into tissues underneath the joint. Double gloving and use of malleable finger splint on the left index finger prevents HIV transmission [8]. The left thumb held in front of the pubes detects the beginning of joint separation. The pressure of the infant's head in the pelvis and on the cut symphysis pubis causes further separation [13] allowing vaginal birth. Episiotomy relieves tension on unsupported anterior vaginal wall and urethra thereby preventing damage to these tissues. Forceps delivery and manual rotation are contraindicated [6].

The decision-delivery interval for symphysiotomy is short[8]. The associated blood loss is negligible and so the need for blood transfusion, with its HIV-transmission risk, is diminished. Therefore, it is appropriate for centres lacking blood transfusion services. The maternal mortality associated with symphysiotomy is negligible[6, 7, 9, 12]. Björklund noted that the mortality associated with caesarean section was 4 to 6 times more than that for symphysiotomy in the twentieth century [9]. Symphysiotomy is a life saving operation for the baby. The associated fetal wastage is as a result of already existing fetal compromise[9]. The high perinatal mortality will improve when symphysiotomy is no longer reserved for desperate cases only.

The complications associated with symphysiotomy include symhpyseal haematoma occurred in 2.7% of cases[10], obstetric fistulae in 1.8%, osteitis pubis, problems with gait and walking, pain around the pelvic girdle and stress incontinence. Symphysiotomy fulfils a cultural need to achieve vaginal delivery in difficult circumstances [6, 12]. It confers a permanent enlargement to the maternal pelvis and facilitates vaginal delivery in future pregnancies [6, 7, 9]. To make an acceptable impact on maternal mortality rates in developing countries, symphysiotomy is hereby advocated as an alternative to caesarean delivery for appropriate indications.

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