Fetal Interlocking Complicating Twin Pregnancy: A Case Report

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Abstract
Fetal interlocking is a potentially catastrophic intrapartum situation and an extremely rare complication of multiple pregnancy. This is the case report of a 27 year old primigravida who presented at the University of Uyo teaching hospital after a traditional birth attendant had failed to deliver the after coming head of her baby. Clinical examination revealed locked twins, with demise of the first twin. The patient was successfully managed with decapitation of the first twin while the second twin was delivered by vacuum extraction with good Apgar scores. This report also reviews literature on interlocked twins and its management.

Key Words: Fetal Interlocking, Twin Pregnancy [Trop J Obstet Gynaecol, 2006, 23:184-185]

Introduction

Fetal interlocking is an extremely rare complication of multiple pregnancy and a potentially catastrophic intrapartum complication [1-4]. It has been estimated to occur in less than 1 in 1000 twin deliveries [5,6]. it prevents spontaneous delivery and is associated with a fetal mortality rate greater than 31% [5,7]. It occurs more commonly in mono-amniotic twin pregnancy, in preterm twins where the sac of the second twin has been ruptured and in primigravidae probably because of the high resting tone of their lower uterine segment [5,7].

Since the establishment of our hospital, this is the first case of interlocked twins that has presented. Thus, in our environment where twin pregnancy rates are the highest in the world [8,9], it becomes necessary to remind practising obstetricians about the existence of this extremely rare but potentially disastrous obstetric complication and also review existing literature on its management.

Case Report

Mrs E.M.O., a 27-year-old primigravida, presented at the maternity unit of the University of Uyo Teaching hospital (UUTH), Uyo on 6th of May 2005 with a history of prolonged second stage of labour. She booked and had regular antenatal care (ANC) at primary health care center Mbak Atai. However, she was attended to during labour by a traditional birth attendant (TBA) and was only brought to UUTH by her relatives after the TBA had failed to deliver the after coming head of her baby. There was no family history of twin pregnancy and her last menstrual period (LMP) was unknown.

On examination, she was not pale, was afebrile and anicteric. Her blood pressure was 140/80 millimetres of mercury and her pulse rate was 100 beats/minute. The fundal height was 34 centimetres, the second twin was in a longitudinal fetal lie and cephalic presentation. The fetal heart rate was 140/minute and was regular. Vaginal examination revealed a male fetus in breech presentation delivered up to the shoulders and hanging from the introitus. The after coming head was felt above the head of the second twin in the pelvis. There was no cord pulsation. The pelvis was ajudged to be adequate for vaginal delivery. A diagnosis of locked twins with demise of the first twin was made. A decision to decapitate the first twin and deliver the second twin was then taken. An intravenous infusion of 5% dextrose/saline was commenced and venous blood samples were obtained for packed cell volume (PCV) and grouping and cross matching of 2 units of blood. Intravenous ampiclox 600 milligrams 6 hourly and metronidazole 500 milligrams 8 hourly were commenced. Her PCV was 29% and urinalysis was normal.

In the lithotomy position in the operating theatre, with the anaesthetist and paediatrician present, the bladder was emptied. Using a stout scissors, the body of the leading twin was severed from its neck leaving just the left arm still attached to the neck. The membranes of the second twin were then ruptured and dilute pitocin infusion was commenced. The after coming head of the first twin was then dislodged upwards and with the assistance of the patient's expulsive efforts, the second twin a 2.0 kilogram male baby was delivered by vacuum extraction and handed over to the attending paediatrician for resuscitation. The Apgar scores of the second twin were 5/10 and 6/10 in one and 5 minutes respectively.

With traction on the attached hand, the decapitated after coming head of the first twin was then delivered using the Mauriceau-Smellie-Veit (MSV) manoeuvre. The placentae were delivered by controlled cord traction and the cervix and perineum were inspected and found to be intact. The oxytocin infusion was continued over the next 2 hours to ensure adequate uterine contraction and retraction. Her postoperative period was un-eventful and she and her baby were discharged on the 4th post-partum day to continue her antibiotics at home.

Discussion

Interlocking of twins occurs when the after coming head of the first twin in breech presentation is prevented from entering the maternal pelvis by the presenting head of the second twin [7]. The combination of breech/ vertex or transverse presentation is at greatest risk of this obstetric complication [3,7]. As in the case presented, its diagnosis is usually made after the body of the first twin has been delivered and its after coming head is stuck [3,7]. If disengagement is not quickly achieved when this condition occurs, the first twin dies, usually from cord occlusion.

In order to prevent this obstetric complication and reduce its associated high fetal mortality, elective Caesarean section (CS) is advocated by some obstetricians when the leading twin is breech and the second cephalic [10,11]. However is not universally accepted as others feel the rarity of this condition and lack of available evidence demonstrating better neonatal outcome following abdominal delivery of presenting breeches that would otherwise satisfy the criteria for vaginal delivery does not justify elective abdominal delivery [12,13,14].

If interlocking is detected before demise of the first twin, procedures advocated to disentangle the twins and prevent fetal death include; manual dislodgement of the second twin out of the pelvis and subsequent delivery of the after-coming head of the first twin by forceps or the MSV procedure [7]; the Zavanelli procedure which aims at returning the partially delivered first twin into the vagina by using constant firm pressure with the palm of the hand in a direction to flex the breech and subsequently deliver both twins by CS [15]; the Kimbal and Rand procedure where forceps are applied to the head of the second twin and traction and hyper-extension to the head of the first twin [16]; emergency CS to unlock the heads of the twins by open manipulation with the delivery of the second twin from above [7]. However, not only do these manipulations often require deep anaesthesia, but they are also very difficult to perform and are often unsuccessful because the degree of locking is often severe and liquor would have drained away. Some like the Kimbal and Rand and the Zavanelli procedures can cause severe genital tract injury and even fetal death [4]. Even CS in this circumstance, in order to obtain adequate space for extracting the fetus may only be possible through a classical incision with its attendant high risk of subsequent uterine rupture [3,4].

Thus, in our environment where there is usually a long interval between presentation of obstetric emergencies and operative intervention [17], reducing the high fetal mortality associated with this condition will only be possible through its prevention. Hence, elective CS is strongly advocated of all our pregnant women when the first twin presents by the breech. Health staff in our peripheral hospitals who offer maternity services should refer all cases of multiple pregnancy to specialized units for appropriate management. Lastly, we must as obstetricians continue to stress the dangers of antenatal clinic default and delivery in unorthodox facilities to all our pregnant women.

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