Case Report

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McRoberts Maneuver for the Management of the Aftercoming Head in Breech Delivery

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Key Words

Breech delivery
Head entrapment
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Abstract

A case report of breech delivery complicated by entrapment of the aftercoming head is presented. McRoberts maneuver was applied to facilitate the release of the head. It is suggested that the same theoretical basis that stands behind the use of McRoberts maneuver in shoulder dystocia might make it applicable as one of the maneuvers to release the aftercoming head in breech delivery.

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Introduction

It is well accepted that one of the major contributors to the increased perinatal loss in breech deliveries is birth trauma, especially trauma to the aftercoming head [1]. Several obstetrical maneuvers have been proposed to deal with this situation. The most popular is Mauriceau's maneuver, first introduced in 1721. Another maneuver, which can be used alone or in combination with other maneuvers, is the application of suprapubic pressure to help with flexion of the head. Bracht, in 1936, employed a new maneuver in which the breech is allowed to deliver spontaneously to the umbilicus, and then the baby's body is held against the mother's symphysis. Alternatively, Piper forceps can be used after delivery of the shoulders.

Recently, we have encountered a case of a multipara at term with a breech presentation, that was complicated by a second-stage fetal distress and entrapment of the after-coming head. The use of some of the above-mentioned maneuvers did not resolve this complication, and the head was finally released by McRoberts maneuver.

Case Report

A 34-year-old woman, gravida 4, para 3, was admitted to our delivery room with spontaneous rupture of membranes at 39th weeks' gestation. Her previous obstetric history included one uncomplicated breech and two vertex deliveries of infants weighing 3,250, 3,300 and 3,450 g, respectively. The prenatal history during this pregnancy was unremarkable. On admission the physical examination was normal and revealed a fetus in a breech presentation. The non-stress test was reactive and radiographic evaluation confirmed the diagnosis of frank breech. The fetal head was normally flexed. The anteroposterior and transverse diameters of the inlet were 12 cm each and the interspinous diameter was 10 cm. The estimated fetal weight on ultrasound examination was 3,400.

Twelve hours after admission the patient began spontaneous labor. Epidural analgesia was introduced and the patient progressed into full dilatation of the cervix within 6 h. During this period a continuous fetal heart rate monitoring was normal. After a few minutes in the second stage of labor, the presenting part descended to the perineum. Concomitantly severe bradycardia of 60 beats per minute appeared that necessitated immediate delivery. The bladder was emptied, a generous episiotomy was performed and the fetal legs were easily released. The breech was grasped and downward traction was applied until the fetal scapulae passed under the maternal symphysis. The shoulders were released by the Loveset maneuver and the

fetal body was held against the mother's symphysis. Suprapubic pressure was applied in order to release the aftercoming head but with no success. Mauriceau's maneuver was thereafter applied in another attempt to release the head but with no result. Only after a sharp flexion of the maternal thighs onto her abdomen was performed (McRoberts maneuver) was the entrapped head successfully released. A male infant was born, weighing 3,400 g with an Apgar score of 5 and 9 at 1 and 5 min, respectively, with no signs of neurological sequelae.

Conclusion

There is a lot in common between shoulder dystocia and entrapment of the aftercoming head in breech delivery. Both situations are unpredictable obstetric emergencies, both contribute to birth trauma and perinatal morbidity and mortality and both lead to panic-stricken moments even to experienced obstetricians.

Unlike the situation in vertex presentation where molding can occur, the aftercoming head of the fetus in a breech delivery must come through the pelvis as it is. Thus minimal variations in maternal pelvic architecture, which would be insignificant in vertex presentation, may become a major obstacle in this situation, and obstruct the passage of the fetal head through the pelvic inlet. This situation in breech delivery is defined as entrapment of the aftercoming head. A maneuver that could induce some alterations in the pelvic dimensions might allow the passage of the aftercoming head through the inlet and contribute to the success of such a delivery.

McRoberts maneuver was first reported by Gonik in 1983 to treat shoulder dystocia. The maneuver is simply the sharp flexion of the thighs onto the maternal abdomen. The maneuver is so simple yet it is extremely effective in the management of shoulder dystocia. This maneuver straightens maternal lumbar and lumbosacral lordosis, therefore removing the sacral promontory from being an obstruction to the inlet. In addition, it removes all weight-bearing forces from the sacrum in the lithotomy position and permits the inlet to open to its maximum dimension.

Moreover, the inlet is brought into the plane perpendicular to the maximum maternal expulsive force [2]. Altogether, these factors could facilitate the release of the impacted shoulder, or, in our case, the entrapped head.

In conclusion, it is suggested that McRoberts maneuver could have a role in the management of the entrapped aftercoming head in breech delivery. In order to examine the effectiveness of this maneuver in breech deliveries further clinical study is needed.

References 1 Tank ES, Davis R, Holt JF, Morley GW: Mechanism of trauma during breech delivery. *Obstet Gynecol* 1971;38:761-767. 2 Smeltzer JS: Prevention and management of shoulder dystocia. *Clin Obstet Gynecol* 1986; 29:299-308.