Unilateral Femoral Fracture in a Low Birth Weight Infant: A Case Report

Young Sun Kim, Hyo Sang Han and Jae Hong Sang

Departments of Obstetrics and Gynecology, Soonchunhyang University Gumi Hospital,
Soonchunhyang University College of Medicine, Korea

Femoral fractures due to birth trauma are an extremely rare but important birth injury. While vaginal breech delivery, although rare, can cause femur fracture, abdominal breech delivery is not expected to cause fracture.

Here we report on a low birth weight infant who was delivered by cesarean section for breech presentation at 30 1/7 weeks of gestation and sustained a unilateral fracture of the femoral shaft.

Key words: birth injury, breech presentation, cesarean section, femoral fracture, low birth weight

Introduction

Breech presentation occur in 3% to 5% of all singleton pregnancies. The frequency is even higher in singleton preterm deliveries (10% to 15%) and twin pregnancies (25%). Breech presentation is associated with poorer perinatal and neonatal outcomes and is an independent risk factor for a higher neonatal mortality rate.

Birth injuries which occur in fewer than 1% of all live births are more common with breech presentations. Breech fetuses are commonly delivered via cesarean section to prevent trauma and decrease the risk of head entrapment. Femoral fractures due to birth trauma, although extremely rare, can occur during cesarean section.

Here, we report a case of a low birth weight infant who was delivered by cesarean section for breech presentation at 30 1/7 weeks of gestation and sustained a unilateral fracture of femoral shaft.

Case Report

A healthy 33-year-old multiparous woman was admitted to our hospital for preterm labor at 30 1/7 weeks’ gestation. She had previously undergone cesarean section and was determined to perform cesarean section because of breech presentation.

A lower segment transverse cesarean section was performed, and a 1,410 g female neonate was delivered with Apgar scores of 4 and 7 at 1 and 5 minutes, respectively.

Because the neonate showed whole-body cyanosis and weak crying, we performed intubation and admitted her to the neonatal intensive care unit. A whole-body radiograph revealed a fracture of the left femoral shaft, of which the proximal portion was anteriorly displaced (Fig. 1a).

The department of orthopedic surgery was consulted, and the neonate underwent reduction and splint application.

The fracture had completely healed after 8 weeks (Fig. 1b).

Discussion

Breech presentation, which occurs in 3% to 4% of deliveries, is a risk factor for perinatal mortality and morbidity. Large population-based and case-control studies have shown significant reductions in perinatal and infant mortality with planned cesarean section in term breech pregnancy. Cesarean section decreases the risk of head entrapment but can still result in long-bone trauma.

The incidence of fetal injury at C/S delivery is 1.1%. The most common injury is skin laceration, which accounts for 64% of injuries. The other types of injury include cephalohematoma, clavicle fracture, facial nerve palsy, brachial plexus injury, intracranial hemorrhage, and long-bone fracture.

Femoral fracture is thought to be induced by several factors: high fetal weight, prematurity, intrauterine...
Fracture of Femoral Shaft of Newborn

Fig. 1 (a) An X-ray film of the left femur fracture of the newborn (1 day after birth). (b) After 8 weeks later, healing of fracture is observed.


(Received, June 30, 2014)
(Accepted, August 28, 2014)