

Depressed Skull Fracture in a Term Newborn Infant

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Clinical Image

A skull fracture in a newborn infant is quite rare in modern perinatal medicine due to the improvement of training, technique and the liberal use of C-sections. However, linear and depressed fractures and cranial deformities due to prolonged labor, positioning of the head during labor and use of operators to assist deliveries are encounter occasionally. The most common cranial deformities seen are caput succedaneum, cephalhematoma and subgaleal bleeding. Rarely, skull fractures are seen. We are reporting an infant born with spontaneous depressed fracture of the skull with associated soft molding.

Case History of Clinical Image

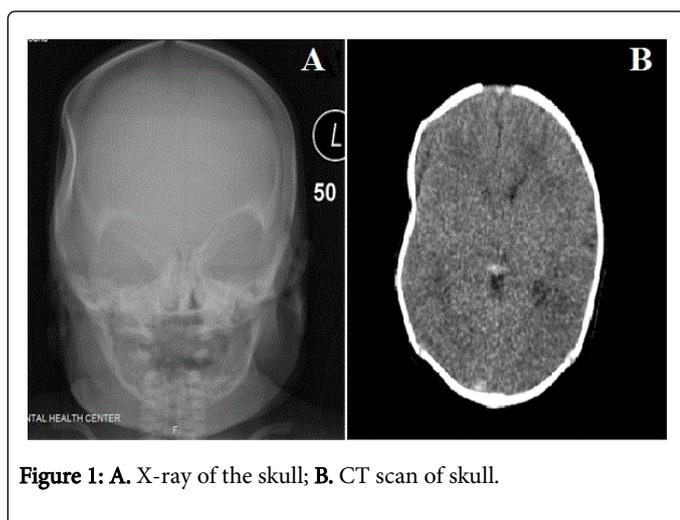


Figure 1: A. X-ray of the skull; B. CT scan of skull.

A full term newborn infant at 40 weeks gestation with birth weight of 3460 gm was born by C-section after labor due to fetal distress. Infant at birth was noted to have molding on the right parietal area of the skull, soft in consistency with a suspicion of depressed skull bones underneath, otherwise infant's clinical and neurological examinations were normal. An x-ray of the skull was obtained because of the persistence of the depressed area of the skull which revealed approximately 1.7/1.8 inch with 4 to 5 mm in depth in the parietal area. Though infant was asymptomatic, at the request of the pediatric neurologist, a CT scan of the skull was obtained which confirmed the depressed fracture of the right temporo parietal skull bone without hemorrhage or tear. In view of normal clinical and neurological exams, infant was discharged with an appointment for a neurosurgical consult. Upon follow up, it was resolved without any intervention and after effects.

Discussion

Depressed fracture of the skull in a newborn infant at birth, although rare, has been reported with an incidence of 1 in 10,000 births. These cases involve mostly temporo-parietal skull bones which are soft, resilient, and flexible. They were previously described as craniotabes [1]. The area can be easily buckled when pressure is applied and it resettle when pressure is released giving the appearance of a ping-pong ball. When it does not rebound, it resembles a cup-shaped depressed fracture of the skull. It has been postulated that this may occur spontaneously in utero due to pressure on the fetal head from ischial tuberosity and pubic bones. This also may occur because of infant's position during labor and OBS maneuvering of the fetal head to assist delivery of the head of the infant during difficult deliveries [2,3]. These fractures pose medical and legal implications for the practitioner and the Institution, though majority of them occur spontaneously and are resolved without any neurological sequelae [2]. In some cases, a skull fracture may be associated with hematoma, dural tear and pressure on the brain membrane resulting in neurological sequelae which would need further intervention [3,4]. The management of these cases varies depending on the underline associated factors which could be from spontaneous resolution, like our case, to nonsurgical procedures that elevate the depression using digital pressure [5], vacuum device using breast pump [6] and obstetrical vacuum extractor [7]. Special cases may require surgical procedure using percutaneous micro screw elevation [8]. This has been used successfully as a simple inexpensive procedure. Recently, surgical correction with a burr hole using a U unner Penfield dissection has been an option to correct the fracture, but it requires general anesthesia [9].

The senior author has four decades of experience in neonatal medicine and has seen only one case, in addition to this case. Both cases occurred spontaneously and resolved without intervention, however the infant has to be evaluated thoroughly and provided with appropriate test and consultation to ensure the infant is safe.

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