

# Epidural Hematomas in Newborns

## A Case Study

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### Background

Epidural hematomas occur between the inner surface of the skull and the outer dura layer. In newborns, they are considered to be rare and are often associated with skull fractures and cephalohematomas. They are most commonly seen in babies born to nulliparous, prima gravida mothers, with long labors that require instruments. Bleeding can be venous or arterial, but venous bleeds are more common in newborns, while in adults, an arterial bleed is more common, usually the middle meningeal artery. An MRI or CT brain is considered the gold standard for diagnosis as opposed to an US as it is not as accurate with regards to the size and thickness of a hematoma. The approach to treatment ranges from watchful waiting in asymptomatic patients with hematoma <1cm to needle aspiration to evacuation with a craniotomy. There is very limited evidence that any of these options have better outcomes. Overall the prognosis is fair, and most patients do not develop severe neurological sequelae.

### Extradural Hemorrhage

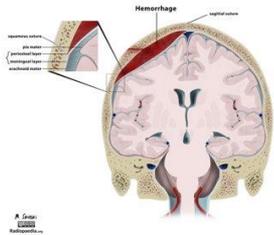


Fig 1. Extradural hemorrhage.

### Introduction

Epidural hematomas are often seen after a great deal of trauma, which is often not associated with newborns. However, because it is rarely on the differential, this can lead to being underdiagnosed. This case study focuses on one such example of a baby presenting with large cephalohematomas.

### Case History

Three-day old female presented to clinic with mother for newborn visit. Mother did not bring any records of prenatal care or birth and very limited history was obtained; does report that labor was complicated with a motor vehicle accident, and that vaginal delivery was attempted with assistive devices. Ultimately reports that baby was born at 39 weeks via cesarean section. On exam, baby was noted to have 2 large cephalohematomas on right and left parietal regions, slightly jaundiced but no scleral icterus noted, and neurological exam was unremarkable. Baby returned for follow up two days later with paternal grandmother, who reports that baby had to undergo phototherapy after birth due to hyperbilirubinemia. Reports baby is feeding well, admits to some minimal spit up, but denies any projectile or excessive vomiting. Also reports baby is voiding and stooling appropriately for age. Exam was unchanged, and baby did not seem bothered when cephalohematomas are palpated. Given the large size of the cephalohematomas, and very limited history, X-Ray skull was ordered to rule out fracture and bilirubin levels were also ordered given history of phototherapy.

### Results

XR skull showed bilateral parietal skull fractures. Family was immediately contacted, imaging results were discussed, and it recommended to go to ED for further imaging with CT head to rule out bleed. CT head was then completed which showed an epidural hematoma on the right causing compression of right cerebral hemisphere with leftward midline shift and right uncal herniation, recommending emergent neurosurgical consultation.



Fig 2. XR skull with parietal skull fractures

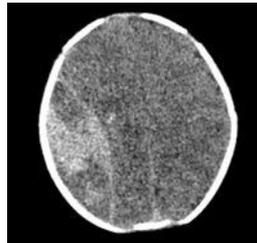


Fig 3. CT head with large epidural hematoma



Fig 4. XR skull with cephalohematomas

### Treatment

Patient then underwent an emergency craniotomy with evacuation of a subgaleal and epidural hematoma with neurosurgery. Patient had a stable post-op course, neuro exam remained within normal limits during hospital stay and no hypotonia was noted.

### Discussion

There is very limited literature on epidural hematomas in newborns, as it is considered to be a rare occurrence, but this could be due to being underdiagnosed. In most cases, no surgical intervention is required and the overall prognosis is generally fair, but data is limited. Patients will generally require very close follow up and will need repeat imaging to monitor bleed. It is important to keep epidural hematomas on the differential, even when neurological examination is benign in cases of prolonged labor with difficult deliveries, especially when assistive devices are used. In our case, this was most likely the cause of the bleed. However, nonaccidental trauma must also remain on the differential in any infant presenting with head trauma and must be ruled out.

### References

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