

Subgaleal Hemorrhage Observation

Distribution: Neonatal ICU nurse, Newborn nursery nurse

Introduction:

Although rare, subgaleal hemorrhage represents a true neonatal emergency. The scalp can accommodate up to 250 mL of blood. Hypovolemic shock, DIC, and multiple organ failure can develop quickly and death can occur in 12-25% of cases. Risk factors include: vacuum or forceps assisted delivery, precipitous delivery, macrosomia, severe shoulder dystocia, primary clotting disorder.

Patients to be monitored:

The following patients should be observed for the development of subgaleal hemorrhage:

1. Instrumentation utilized in delivery
2. Diffuse swelling of the scalp or head
3. Difficult extraction with 5 minute APGAR \leq 7

Assessment for the first 24 hours after delivery:

1. Vital signs including blood pressure and clinical evaluation including capillary refill immediately after birth, every 1 hour x 2, then every 4 hours
2. Head assessment and head circumference measurement on the above schedule including monitoring for the following
 - a. Increasing bruising
 - b. Increasing scalp edema
 - c. Increasing anterior fontanel fullness

Notify physician if:

1. Increase in heart rate $>$ 20 bpm above admission
2. Respiratory rate $>$ 60
3. Capillary refill $>$ 3 seconds
4. Skin pallor
5. Systolic BP $<$ 55 mmHg or a decrease greater than 20 mmHg from admission
6. Change in head exam, particularly increase in swelling/edema or head circumference measurement
7. Neurologic abnormalities: tremors, seizures, irritability, lethargy, weak suck, hypotonia, or bulging fontanelle

Interventions:

1. Transfer to NICU immediately if concerns for subgaleal hemorrhage
2. If will not delay transfer to NICU:
 - a. Initiate IV access
 - b. Obtain immediate CBC, coagulation panel, blood gas with lactate
 - i. Note: initial bloodwork may be normal, should obtain serial values
3. Consider and obtain provider order for CT, if indicated, to confirm diagnosis. Cranial ultrasound is often inaccurate due to the diffuse swelling and should not be relied upon.
4. Replace blood volume per provider order (estimate 40 mL blood lost per 1 cm increase in head circumference)
5. Correct coagulopathy per provider order
6. Treat shock to maintain organ perfusion
7. Treat seizures per provider order as necessary
8. Monitor bilirubin carefully