

Caput succedaneum and cephalohematoma

Delivery is not always smooth for the newborn. The newborn may sustain a number of birth injuries during this time. These injuries can affect any part of the infant and the most common ones are head injuries.

There are three types of [head injuries](#) in neonates, Intracranial hemorrhage, caput Succedaneum, and cephalohematoma.

For the purpose of this article, we shall look at caput succedaneum and cephalohematoma giving their features, diagnosis, treatment and the differences between them.

Caput succedaneum

When the fetus in cephalic presentation, a diffuse oedematous swelling under the scalp but above the periosteum may occur, this swelling is known as caput succedaneum. Therefore, caput succedaneum is a serosanguinous fluid collection above the [periosteum](#) of the scalp.

With occipitoanterior position, one caput succedaneum may present.

With an occipitoposterior position, a caput succedaneum may form, but if the occiput rotates anteriorly a second caput succedaneum may develop.

A delay in the delivery of the baby's head during the second stage of labor makes the perineum to act as another 'girdle of contact' causing the formation of a second caput succedaneum.

A 'false' caput succedaneum known as "a chignon" occurs if a vacuum extractor cup is used.

Characteristics of caput succedaneum

- A caput succedaneum is usually present at birth, thereafter decreasing in size.
- This swelling can 'pit' on pressure.
- It may extend across the mid-line and across the suture lines
- The edema disappears within the first few days of life
- May be discolored or bruised, may be associated with increased molding and
- Edema may move to the dependent area of the scalp.
- It presents as a soft tissue swelling with purpura and ecchymosis over the presenting portion of the scalp

Abrasion of a chignon is possible. The swelling is usually self-limiting, resolving within 36 hours, with no longer-term consequences. An abraded chignon usually heals rapidly if the area is kept clean, dry and is not irritated

In caput succedaneum molding of the head and overriding of the parietal bones disappear during the first weeks of life

Analogous swelling, discoloration, and distortion of the face are seen in face presentations.

Rarely, a hemorrhagic caput may result in shock and require a blood transfusion

Management of caput succedaneum

There is no specific treatment is needed but if extensive ecchymoses are present, [hyperbilirubinemia](#) may develop due to hemolysis of the blood in the swelling.

A blood transfusion may be required in case of [shock](#).

Cephalohematoma (cephalhaematoma)

A cephalohematoma is a collection or an effusion of blood under the periosteum (subperiosteal) that covers the skull bones caused by the rupture of vessels beneath the periosteum.

During vaginal birth, if there is friction between the fetal skull and maternal pelvic bones, such as in CPD or precipitate labor, the periosteum may be torn from the bone, causing bleeding below it.

Cephalhaematomas may also occur during vacuum-assisted births. Because the fetal or newborn skull bones are not fused, and as the periosteum is adherent to the edges of the skull bones, a cephalhaematoma is confined to one bone.?

However, more than one bone may be affected leading to the formation of multiple cephalhaematomas.

In some cases, there can be a coexistence of a cephalohematoma and a caput succedaneum.

Characteristics of cephalohematoma

- A cephalohematoma is not usually present at birth like a caput succedaneum.
- It appears after 12 hours and gradually grows larger over days and persists for weeks.
- This kind of swelling is firm and does not pit on pressure.
- Does not cross a suture and is usually fixed.

Diagnosis

Diagnosis of a cephalohematoma can be arrived at by physical examination of the newborn.

Skull radiograph to rule out a skull fracture.

Cranial computed tomography.

Management of cephalohematoma.

There is no treatment required because the swelling subsides by itself when the blood is reabsorbed.

If an infection is suspected, aspiration of the mass.

If sepsis, [meningitis](#) or osteomyelitis develops, antibiotics should be started

Hyperbilirubinaemia may occur due to hemolysis of the extravasated blood and this may necessitate phototherapy.

What are the differences between caput succedaneum and cephalohematoma?

Indicators	Caput Succedanum	Cephalohematoma
Location	Presenting part of the head	Periosteum of the skull bone
Extent of involvement	Both hemispheres; crosses the suture lines	Does not cross the suture lines
Period of absorption	3 to 4 days	Few weeks to months

Treatment

None

Supportive

what is a chignon?

A chignon is a 'false' caput succedaneum that occurs if a vacuum extractor cup is used.