

### 3.8.4. Upaśīrṣaka (Neonatal scalp edema; modern correlation: Caput succedaneum)

## Unit 3 · Topic 8.4 Upaśīrṣaka (Neonatal scalp edema; modern correlation: Caput succedaneum)

### Learning goals

After this lesson you will be able to:

- define **Upaśīrṣaka** with the **exact classical śloka** and give the modern correlation;
- enumerate **etiology, pathogenesis, and risk factors**;
- distinguish Upaśīrṣaka from **cephalohematoma** and **subgaleal hemorrhage** at the bedside;
- perform a **focused examination** and decide when **no investigation** is needed;
- outline **safe, exam-worthy management** for the newborn, integrating Kaumārabhr̥tya rationale with current neonatology;
- write crisp **short notes**, OSCE steps, and counselling points.

## 1) Definition (quote & explain)

“कपाले पवने दुष्टे गर्भस्थस्यापि जायते ।

सवर्णो नीरुजः शोफस्तं विद्यादुपशीर्षकम् ॥” — **Vāgbhaṭa, Aṣṭāṅga Hṛdayam, Uttaratantṛa 23/21.**

(When **vāta** gets vitiated in the **kapāla** [scalp] even in the **garbha** [intra-uterine] state, a **painless swelling** of the **same colour** as the skin appears—this is **Upaśīrṣaka**.)

**Modern correlation: Caput succedaneum**—a **benign, subcutaneous oedema** over the presenting part of the scalp, often present **at birth, pitting, diffuse, and crossing sutures**; it resolves spontaneously in **24-48 hours**.

**Why this mapping works:** painless, skin-coloured, superficial **śoṣha** caused by pressure and fluid stasis; arises **intra-partum/intra-uterine**, matching the śloka’s “garbhasthasya api”.

## 2) Etiology & pathogenesis

### 2.1 Classical logic

- **Prādhānya of Kapha-kleda** in bālyā and **vāta-duṣṭi** at the scalp (**kapālagata**)—together produce **śoṣha** (oedema) without pain or colour change (skin-coloured).
- Pressure during labour → **srotorodha** (micro-channel obstruction) and **stanya-jala**-like fluid congestion superficially in the scalp.

### 2.2 Recent understanding

- **Mechanical pressure** from the dilating cervix / birth canal on the presenting part → **lymphatic/venous stasis** in subcutaneous plane.
- Risk factors: **prolonged/obstructed labour, instrumental delivery** (vacuum/forceps), **primigravida**, prolonged second stage, malposition. (Instrumental delivery more strongly risks **subgaleal hemorrhage**, not caput; see Differentials.)

### 3) Clinical features

- **Seen at birth** or soon after.
- **Boggy, pitting oedema** over the presenting part; **diffuse margins; crosses suture lines; non-fluctuant, no discoloration; painless**, baby otherwise well.
- **No systemic signs** (no pallor/shock; normal vitals).
- Often coexists with mild **moulding** of skull bones.

### 4) Differentiate at the bedside

Feature	Upaśīrṣaka / Caput	Cephalohematoma	Subgaleal hemorrhage (SGH)
Plane	<b>Subcutaneous oedema</b>	<b>Subperiosteal blood</b>	<b>Subaponeurotic blood</b>
Sutures	<b>Crosses</b> sutures	<b>Limited by</b> sutures	<b>Crosses</b> sutures (diffuse)
Consistency	<b>Soft, pitting</b> , non-fluctuant	<b>Firm</b> → <b>fluctuant</b> later	<b>Fluctuant, shifting</b> , may ballot
Onset	<b>At birth</b>	<b>Hours-day</b> after	At birth/first hours
Systemic signs	<b>Absent</b>	± Jaundice (haemolysis)	<b>Can be severe—pallor, tachycardia, hypotension; falling Hb</b>
Management	<b>Observe only</b>	Observe; monitor bilirubin; <b>no aspiration</b>	<b>Emergency monitoring</b> (HC, Hb 4-8-hourly), resuscitate, transfuse as needed; NICU protocol

**Sources:** StatPearls (caput); CAHS Neonatology guideline and NZ/Starship practice recommendations (SGH).

### 5) Examination & OSCE sequence (10 lines you can memorise)

1. **General look:** activity, cry, colour.
2. **Vitals:** HR, RR, temperature, perfusion.
3. **Scalp inspection:** site, extent, colour; note any **meconium staining** or bruising.
4. **Palpation:** **pitting** vs **fluctuation; suture crossing; edge definition.**
5. **Moulding and fontanelles.**
6. **Neuro screen:** tone, primitive reflexes (Moro, suck), symmetry.
7. **Check for clavicle tenderness** (birth injury cluster).
8. **Measure head circumference (HC)** if swelling is **diffuse** or infant is instrument-delivered—repeat if SGH suspected.
9. **Look for systemic red flags:** pallor, tachycardia, prolonged capillary refill.
10. **Document** findings & parental counselling.

### 6) Investigations

- **Uncomplicated Upaśīrṣaka: No tests required.** Avoid unnecessary imaging/needling.
- **If doubt about SGH/cephalohematoma:** serial **HC/Hb, coagulation** when bleeding suspected; bedside **neurosonogram** for intracranial bleeds if indicated; follow local **SGH** checklists.

## 7) Management — safe, stepwise, and brief

### 7.1 What you do

- **Reassure:** benign, self-limiting; resolves in **24-48 h**.
- **Protect the scalp:** avoid **pressure** (no tight caps, avoid prolonged pressure on one spot).
- **Breastfeeding support** and **positioning** to minimise pressure on the swelling.
- **Routine neonatal care** (warm chain, rooming-in, Vit K, immunisation as due).

### 7.2 What you do not do

- **No aspiration/needling** of the swelling.
- **No tight bandaging**, no “compressive” devices.
- **Do not** label as “cephalohematoma” unless borders are suture-limited and fluctuant.

### 7.3 When to re-evaluate / refer

- Swelling **enlarging** after birth; **fluctuant, diffuse**, with **pallor/tachycardia** → **think SGH** and follow emergency pathway (serial HC/Hb 4-8-hourly; IV access; resuscitation; transfusion per guideline).
- **Jaundice** rising out of proportion (consider coexisting cephalohematoma).

## 8) Kaumārabhṛtya rationale you can write in 4-5 lines

- **Śloka** defines Upaśīrṣaka as **vāta-duṣṭi** producing **painless, skin-coloured śopha** of the scalp.
- Labour pressure = **srotorodha + kleda-sañcaya** in the superficial plane; hence **no pain, no colour change**.
- **Chikitsā-sūtra (neonate-safe):** preserve **ojas/prāṇa** by **warm chain, minimal handling, and gentle touch only after stability; no invasive measures** because śopha abates spontaneously.
- General head-Vāta principles from Uttarasthāna (oil/ghee, warm, night-rest) are **adapted** in neonates to **non-pharmacological warmth and gentle emollients** if skin is dry—**never vigorous massage** on active swelling.

## 9) Case vignettes

**Case 1:** Term baby, normal vaginal delivery; at birth a **soft, pitting, diffuse swelling** on vertex **crossing sutures**; baby well.

- **Dx:** Upaśīrṣaka (caput). **Plan:** Reassure; protect from pressure; no tests; discharge with advice—expected resolution in 24-48 h.

**Case 2:** Vacuum delivery; after 2 h **diffuse, fluctuant** scalp swelling extending to nape; **tachycardia, pallor**.

- **Dx:** Suspected **SGH**. **Plan:** NICU; serial **HC/Hb** 4-8-hourly; IV access; fluids/blood products as indicated; continuous monitoring.

**Case 3:** Firm, well-demarcated parietal swelling **not crossing suture**, becomes **fluctuant** by day 2; baby well, but **bilirubin** borderline high.

- **Dx:** **Cephalohematoma**. **Plan:** Observe; bilirubin monitoring; **no aspiration**; parental counselling.

## 10) Counselling script

- “This scalp swelling is **benign** and due to **birth-process pressure**.”



- It is **soft, skin-coloured, not a blood clot**, and should **settle in 1-2 days**.
- We'll avoid **pressure** on that area and help you with **comfortable feeding positions**.
- **Come back urgently** if you notice the swelling **spreading**, baby becomes **pale/sleepy**, or feeding becomes poor."

## 11) Quick revision tables

### 11.1 One-line memory aids

- **Upaśīrṣaka = Caput:** *painless, pitting, presents at birth, passes sutures.*
- **Cephalohematoma:** *periosteum-bound, appears later, may raise bilirubin.*
- **SGH:** *subaponeurotic blood, shock risk—monitor HC/Hb.*

### 11.2 Documentation template

- **Swelling site/size:** ...
- **Sutures crossed?** Yes/No
- **Consistency:** pitting / firm / fluctuant
- **Vitals & HC:** ...
- **Assessment:** Upaśīrṣaka (caput) / doubt SGH? / cephalohematoma?
- **Plan:** Reassure / Observe / SGH pathway initiated / Labs ordered ...

## Self-assessment

### MCQs (choose one best answer)

1. **Most characteristic sign** of Upaśīrṣaka is:
  - A. Fluctuation and ecchymosis
  - B. Pitting oedema crossing sutures, present at birth**
  - C. Firm, non-pitting swelling limited by sutures
  - D. Rapid expansion with pallor
2. Which statement about **caput** is **true**?
  - A. Needs aspiration if tense
  - B. Resolves within 24-48 h with protection from pressure**
  - C. Always associated with jaundice
  - D. Must be bandaged tightly to prevent spread
3. A baby after vacuum delivery has **diffuse, fluctuant scalp swelling**, tachycardia, falling Hb. The **best next step** is:
  - A. Reassure and discharge
  - B. Apply tight head bandage
  - C. Start SGH protocol—serial HC/Hb, resuscitation as needed, NICU**
  - D. Aspiration of swelling
4. Classical verse for Upaśīrṣaka attributes the swelling to:
  - A. Kapha rakta duṣṭi with pain and redness
  - B. Vāta-duṣṭi at the scalp causing painless, skin-coloured śopha**
  - C. Pitta predominance with burning
  - D. Tridoṣa with suppuration
5. Which pair is **correctly matched**?
  - A. Cephalohematoma—crosses sutures
  - B. Caput—subcutaneous oedema**
  - C. SGH—limited by sutures
  - D. Caput—requires imaging



**Answer key:** 1-B, 2-B, 3-C, 4-B, 5-B.

### Short-answer (3-5 lines)

1. Define **Upaśīrṣaka** with the śloka and give its modern correlation.
2. List **four bedside features** that separate **caput** from **cephalohematoma**.
3. Write the **SGH red-flags** and immediate steps.
4. Explain the **Kaumārabhṛtya rationale** for “no invasive treatment” in Upaśīrṣaka.
5. Draft a **counselling note** for parents of a baby with caput succedaneum.

### Long-answer (10-12 marks)

1. Discuss **Upaśīrṣaka** under **definition (śloka), aetiology/pathogenesis, clinical features, differential diagnosis, investigations, management and counselling**, correlating with **caput succedaneum** and contrasting with **cephalohematoma/SGH**.
2. Using the classical concept of **kapālagata-roga** and **vāta-duṣṭi**, explain why **non-intervention** is the appropriate management in Upaśīrṣaka and how improper handling can convert a benign state into a complication.

### 60-second recap

**Upaśīrṣaka = caput succedaneum: painless, skin-coloured, pitting scalp oedema that crosses sutures, present at birth, and self-resolving.** Quote **A.H. Uttara 23/21**. Differentiate from **cephalohematoma** (subperiosteal, later, may raise bilirubin) and **SGH** (subaponeurotic bleed with **shock risk**—monitor **HC/Hb**). **Management:** reassurance, pressure protection, routine newborn care; **no aspiration**. Classical rationale: **vāta-duṣṭi śopha** at scalp → **ojas-rakṣaṇa & upadrava-nivāraṇa** via **non-invasive, gentle care**.