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 Kaumārabhṛtya rationale with current neonatology;
- write crisp **short notes**, OSCE steps, and counselling points.

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1) Definition (quote & explain)

> **"कपाले पवने दुष्टे गर्भस्थस्यापि जायते ।**
> **सवर्णो नीरुजः शोफस्तं विद्यादुपशीर्षकम् ॥" — Vāgbhaṭa, Aṣṭāṅga Hṛdayam, Uttaratantra 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 **śopha** caused by pressure and fluid stasis; arises **intra-partum/intra-uterine**, matching the śloka's "garbhasthasya api".

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2) Etiology & pathogenesis

2.1 Classical logic

- **Prādhānya of Kapha-kleda** in bālya and **vāta-duṣṭi** at the scalp (**kapālagata**)—together produce **śopha** (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.)

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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.

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4) Differentiate at the bedside

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

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

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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.

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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.

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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).

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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.

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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.

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10) Counselling script

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

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- 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."

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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**.