PEDIATRIC HEMATOLOGY CLINICAL GUIDE

Focused History Taking in a Child with Pallor

A Structured, Etiology-Driven Approach to Pediatric Anemia Diagnostic Evaluation

Pediatric Clinical History • Systematic Evaluation

1. Demographic Data & Chief Complaint

Age & Sex Diagnostic Clues

- **Neonates:** Hemorrhage, Rh/ABO incompatibility, or severe congenital hemolytic anemias.
- **6–24 Months:** Peak incidence for Iron Deficiency Anemia (IDA) due to dietary transition.
- **Older Children:** Chronic disease, GI blood loss, acquired hemolysis, or malignancy.
- **Males:** X-linked recessive disorders (e.g., G6PD deficiency).
- **Adolescent Females:** Menorrhagia / Heavy menstrual bleeding.

Chief Complaint (CC)

> **"Paleness noticed by parents / caregiver"**

Key Question: "When was the pallor first noticed, and has it been constant or progressive?"

Establishing accurate duration distinguishes acute emergencies from insidious chronic conditions.

3. History of Present Illness (HPI)

A. Onset & Progression

- **Sudden Onset:** Suggests acute hemolysis (G6PD crisis, autoimmune AIHA) or acute hemorrhage.
- **Gradual / Insidious Onset:** Points toward nutritional deficiency, bone marrow failure, or chronic inflammation.

B. Functional Severity Assessment

↳ **General Symptoms:** Fatigue, lethargy, irritability, poor feeding, or poor suckling in infants.

↳ **Cardiorespiratory Compromise:** Shortness of breath, dyspnea on exertion, dizziness, lightheadedness, syncope, or palpitations.

4. Etiology-Driven Framework Overview

Category 1

Decreased RBC Production

- Nutritional Deficiencies (Iron, B12, Folate)
- Bone Marrow Failure (Aplastic)
- Bone Marrow Infiltration (Leukemia)
- Chronic Diseases (CKD, IBD)

Category 2

Increased RBC Destruction

- Hereditary Hemolytic (G6PD, Sickle Cell, Thalassemia)
- Acquired Hemolytic (AIHA, HUS)
- Infections (Malaria, Sepsis)

Category 3

Blood Loss

- Acute Blood Loss (Trauma, Birth)
- Chronic GI Loss (Melena, Parasites)
- Adolescent Menorrhagia

Category 1: Nutritional Deficiencies

Iron Deficiency Anemia (IDA)

- "Is the child consuming excessive cow's milk (> 500 mL/day or introduced before 1 year)?"
- "Is the child exclusively breastfed past 6 months without iron supplementation/fortified foods?"
- "Does the child exhibit Pica (craving non-food items like dirt, ice, paper, or clay)?"

Vitamin B12 & Folate Deficiency

- "Does the child/mother follow a strict vegan diet without supplementation?"
- "Is there a history of chronic diarrhea, malabsorption, or intestinal surgery?"

Category 1: Bone Marrow Disorders

Aplastic / Fanconi

Bone Marrow Failure

- **Thrombocytopenia:** "Are there skin changes like petechiae, purpura, easy bruising, or gum/nose bleeding?"
- **Neutropenia:** "Is there a history of recurrent or severe infections/fevers?"
- **Congenital Anomalies:** "Were there skeletal defects noted at birth (e.g., thumb or hand anomalies)?"

Malignancy

Bone Marrow Infiltration

Leukemia, Lymphoma, Neuroblastoma

- **Bone Pain:** "Does the child complain of persistent bone/joint pain that wakes them at night?"
- **Lymphadenopathy:** "Have you noticed painless lumps or swollen lymph nodes in the neck, armpits, or groin?"
- **Constitutional Signs:** Unexplained prolonged fever, night sweats, or weight loss.

Category 1: Chronic Diseases

- **Renal Pathology (CKD):**
  "Is there a known history of kidney disease, facial swelling, or changes in urine output?"

- **Chronic Inflammation (IBD/Rheumatic):**
  "Are there signs of chronic inflammation like persistent abdominal pain, chronic diarrhea, or joint swelling?"

- **Endocrine Disorders (Hypothyroidism):**
  "Are there hypothyroid symptoms: severe constipation, dry skin, coarse hair, or growth delay?"

Category 2: Hereditary Hemolytic Anemias

G6PD Deficiency

- "Did the child recently ingest fava beans?"
- "Was there exposure to oxidative drugs (sulfonamides) or mothballs?"
- "Did you notice dark red, brownish, or tea-colored urine?"

Sickle Cell Disease

- "Does the child suffer from severe acute painful episodes in bones or abdomen?"
- "Has there been dactylitis (painful swollen hands/feet)?"

Thalassemia & Spherocytosis

- "Has the child experienced yellowish discoloration of eyes/skin (Jaundice)?"
- "Is there a family history of early gallstones or early splenectomy?"

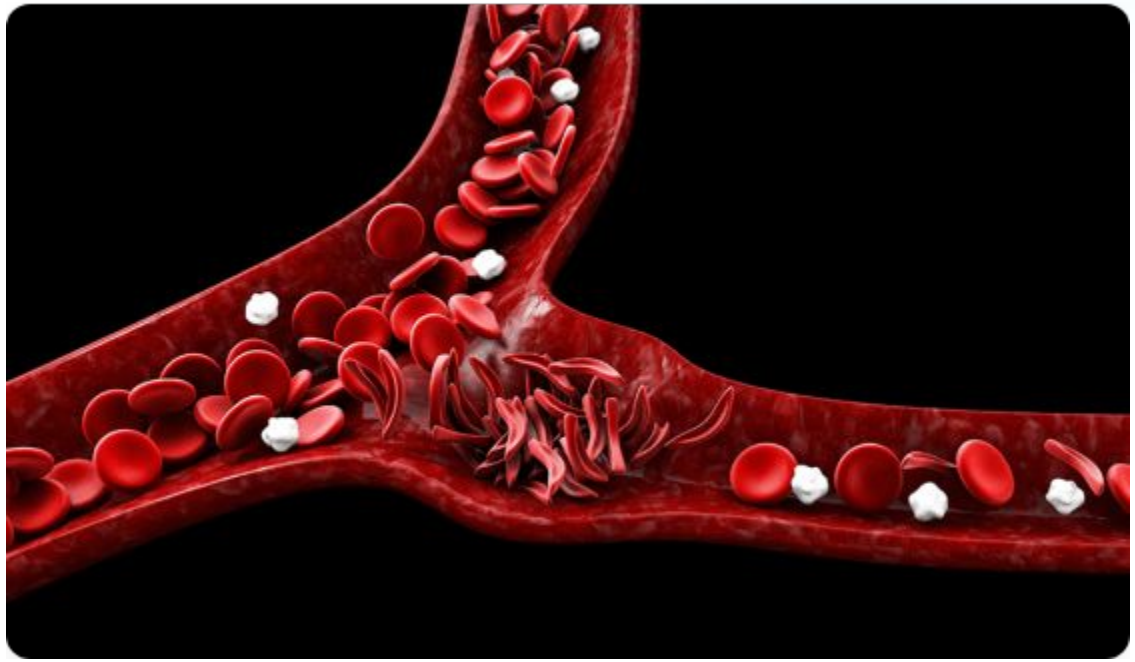
Category 2: Acquired Hemolytic Disorders

Immune & Microangiopathic Hemolysis

- **HUS Clue:** "Was there a recent viral/bacterial infection or an episode of bloody diarrhea?"
- **Drug-Induced (AIHA):** "Has the child started any new medications recently?"

Infectious & Endemic Exposure

- **Malaria Risk:** "Has the child traveled to or lived in a malaria-endemic region?"
- **Systemic Infection:** Signs of sepsis, prolonged fever, or hemodynamic instability.



Category 3: Blood Loss Assessment

Acute Bleeding

Acute Blood Loss

- "Is there a history of recent trauma, surgical procedures, or acute visible bleeding?"
- **Neonates:** "Was there birth trauma, fetal-maternal hemorrhage, or umbilical cord bleeding?"

Chronic Bleeding

Chronic Blood Loss

- **Gastrointestinal:** "Is stool black/tarry (Melena) or containing bright red blood (Hematochezia)?"
- **Parasitic:** "Does the child walk barefoot on dirt/soil?" (Risk of Hookworm infestation)
- **Adolescents:** "Are menses unusually heavy (>7 days) or containing large clots?"

5–7. Medical, Exposure & Family Background

Past Medical History

Perinatal: Prematurity, low birth weight (depleted iron stores), neonatal jaundice/phototherapy.
Prior Episodes: Recurrent anemia, transfusions.

Drug & Exposure

Meds: NSAIDs/steroids (GI bleeding), oxidative drugs (G6PD hemolysis).
Environment: Lead paint pica or heavy metal exposure.

Family History

Genetics: Thalassemia, Sickle Cell, G6PD, Spherocytosis.
Consanguinity: Parental relation (autosomal recessive conditions).

Diagnostic Synthesis Completed

A structured history narrows the differential diagnosis of pediatric pallor prior to ordering targeted lab work (CBC, Reticulocyte count, Blood Smear).

Systematic History

Etiology-Focused