

## **New born baby**

### **History in Neonatal Pediatrics:-**

The neonatal history should (1) identify disabling diseases that are amenable to prompt preventive action or treatment (respiratory distress syndrome), (2) anticipate conditions that may be of later importance (gonococcal conjunctivitis), and (3) uncover possible causative factors that may explain pathologic conditions regardless of their immediate or future significance (screening for inborn errors of metabolism). The perinatal history should include demographic and social data (socioeconomic status, age, race); past medical illnesses in the mother and family, including previous siblings (cardiopulmonary disorders, infectious diseases, genetic disorders, anemia, jaundice, diabetes mellitus); previous maternal reproductive problems (stillbirth, prematurity, blood group sensitization); events occurring in the present pregnancy (vaginal bleeding, medications, acute illness, duration of rupture of membranes); and a description of the labor (duration, fetal presentation, fetal distress, fever) and delivery (cesarean section, anesthesia or sedation, use of forceps, Apgar score, need for resuscitation).

The initial examination of a newborn infant should be performed as soon as possible after delivery to detect abnormalities and to establish a baseline for subsequent examination

Infants should have temperature, pulse, respiratory rate, color, type of respiration, tone, activity, and level of consciousness monitored every 30 min after birth for 2 hr or until stabilized. For high-risk deliveries, this examination should take place in the delivery room and focus on congenital anomalies and pathophysiologic problems that may interfere with normal cardiopulmonary and metabolic adaptation to extrauterine life.

Congenital anomalies may be present in 3–5% of infants. After a stable delivery room course, a 2nd and more detailed examination should be performed within 24 hr of birth. If an infant remains in the hospital longer than 48 hr, a discharge examination should be performed within 24 hr of discharge.

The pulse (normal, 120–160 beats/min), respiratory rate (normal, 30–60 breaths/min), temperature, weight, length, head circumference, and dimensions of any visible or palpable structural abnormality should be recorded. Blood pressure is determined if a neonate appears ill or has a heart murmur.

Vasomotor instability and peripheral circulatory sluggishness are revealed by deep redness or purple lividity in a crying infant, whose color may darken profoundly with closure of the glottis preceding a vigorous cry, and by harmless cyanosis (acrocyanosis) of the hands and feet, especially when they are cool. Mottling, another example of general circulatory instability, may be associated with serious illness or related to a transient fluctuation in skin temperature.

Significant cyanosis may be masked by the pallor of circulatory failure or anemia; alternatively, the relatively high hemoglobin content of the 1st few days and the thin skin may combine to produce an appearance of cyanosis at a higher Pao<sub>2</sub> than in older children. Localized cyanosis is differentiated from ecchymosis by the momentary blanching pallor (with cyanosis) that occurs after pressure.

Pallor may represent asphyxia, anemia, shock, or edema.

Slate-blue, well-demarcated areas of pigmentation are seen over the buttocks, back, and sometimes other parts of the body in more than 50% of black, Native American, or Asian infants and occasionally in white ones. These patches have no known anthropologic significance despite their name, mongolian spots; they tend to disappear within the 1st year.

In many neonates, small, white, occasionally vesiculopustular papules on an erythematous base develop 1–3 days after birth. This benign rash, erythema toxicum, persists for as long as 1 wk, contains eosinophils, and is usually distributed on the face, trunk, and extremities. Pustular melanosis, a benign lesion seen predominantly in black neonates, contains neutrophils and is present at birth as a vesiculopustular eruption around the chin, neck, back, extremities, and palms or soles; it lasts 2–3 days. Both lesions need to be distinguished from more dangerous vesicular eruptions such as herpes simplex and staphylococcal disease of the skin .

## **SKULL.**

All infants should have their head circumference charted, Premature fusion of sutures (cranial synostosis) is identified by a hard nonmovable ridge over the suture and an abnormally shaped skull. Great variation in the size of the fontanels exists at birth; if small, the anterior fontanel usually tends to enlarge during the 1st few months of life. The persistence of excessively large anterior (normal, 20 ± 10 mm) and posterior fontanels has been associated with several disorders.

### **Disorders Associated with a Large Anterior Fontanel**

Achondroplasia	Intrauterine growth retardation
Apert syndrome	Kenny syndrome
Athyrotic hypothyroidism	Osteogenesis imperfecta
Cleidocranial dysostosis	Prematurity
Congenital rubella syndrome	Pyknodysostosis
Hallermann-Streiff syndrome	Russell-Silver syndrome
Hydrocephaly	13-, 18-, 21-trisomies
Hypophosphatasia	Vitamin D deficiency rickets

### **FACE.**

The general appearance should be noted with regard to dysmorphic features, such as epicanthal folds, widely or narrowly spaced eyes, microphthalmos, asymmetry, long philtrum, and low-set ears, which are often associated with congenital syndromes.

### **Eyes.**

The eyes often open spontaneously if the infant is held up and tipped gently forward and backward. This maneuver, a result of labyrinthine and neck reflexes, is more successful for inspecting the eyes than is forcing the lids apart. Conjunctival and retinal hemorrhages are usually benign. Retinal hemorrhages are more common with vacuum-assisted deliveries (75%) than after cesarean section (7%). They resolve in most infants by 2 wk (85%) and in all infants by 4 wk of age.

Pupillary reflexes are present after 28–30 wk of gestation. The iris should be inspected for colobomas and heterochromia. A cornea larger than 1 cm in diameter in a term infant (with photophobia and tearing) suggests congenital glaucoma and requires prompt ophthalmologic consultation.

Leukokoria (white pupillary reflex) suggests cataracts, tumor, chorioretinitis, retinopathy of prematurity, or a persistent hyperplastic primary vitreous and warrants an immediate ophthalmologic consultation.

### **Ears.**

Deformities of the pinnae are occasionally seen. Unilateral or bilateral preauricular skin tags occur frequently; if pedunculated, they can be tightly ligated at the base, and dry gangrene and sloughing result. The tympanic membrane, easily seen otoscopically through the short, straight external auditory canal, normally appears dull gray.

### **Nose.**

Anatomic obstruction of the nasal passages secondary to unilateral or bilateral choanal atresia results in respiratory distress.

### **Mouth.**

A normal mouth may rarely have precocious dentition, with natal (present at birth) or neonatal (eruption after birth) teeth in the lower incisor position or aberrantly placed; these teeth are shed before the deciduous ones erupt.

Neonates do not have active salivation. The tongue appears relatively large; the frenulum may be short, but rarely is shortness (tongue-tied or ankyloglossia) a reason for cutting it. If there are problems with feedings (breast or bottle) and the frenulum is short, frenulotomy may be indicated.

### **CHEST.**

Breast hypertrophy is common, and milk may be present (but should not be expressed). Asymmetry, erythema, induration, and tenderness should suggest mastitis or a breast abscess. Look for supernumerary nipples, inverted nipples, or widely spaced nipples with a shield-shaped chest; the latter suggests Turner syndrome.

### **LUNGS.**

Much can be learned by observing breathing. Variations in rate and rhythm are characteristic and fluctuate according to the infant's physical activity, state of wakefulness, or the presence of crying.

A rate consistently over 60/min during periods of regular breathing usually indicates pulmonary, cardiac, or metabolic disease (acidosis). Premature infants may breathe with a Cheyne-Stokes rhythm, known as periodic respiration, or with complete irregularity. Irregular gasping, sometimes accompanied by spasmodic movements of the mouth and chin, strongly indicates serious impairment of the respiratory centers.

A weak persistent or intermittent groaning, whining cry or grunting during expiration signifies potentially serious cardiopulmonary disease or sepsis and warrants immediate attention. When benign, the grunting resolves between 30 and 60 min after birth.

Normally, the breath sounds are bronchovesicular. Suspicion of pulmonary pathology because of diminished breath sounds, rales, retractions, or cyanosis should always be verified with a chest radiograph.

### **HEART.**

Normal variation in the size and shape of the chest makes it difficult to estimate the size of the heart. The location of the heart should be determined to detect dextrocardia. Transitory murmurs usually represent a closing ductus arteriosus.

### **ABDOMEN.**

The liver is usually palpable, sometimes as much as 2 cm below the rib margin. Less commonly, the tip of the spleen may be felt. The approximate size and location of each kidney can usually be determined on deep palpation.

Cystic abdominal masses include hydronephrosis, multicystic-dysplastic kidneys, adrenal hemorrhage, hydrometrocolpos, intestinal duplication, and choledochal, ovarian, omental, or pancreatic cysts.

### **The five senses develop in the fetus?**

- Touch: Between 8 and 15 weeks' gestational age (GA), the fetal somatosensory system develops in a cephalocaudal pattern. By 32 weeks' GA, the fetus consistently responds to temperature, pressure, and pain.
- Taste: Taste buds are morphologically mature by 13 weeks' GA. By 24 weeks' GA, gustatory responses may be present.
- Hearing: Auditory function begins at 20 weeks' GA when the cochlea becomes functional. By 25 weeks' GA, response to intense vibroacoustic stimuli can be elicited. Sensitivity and frequency resolution approach adult level by 30 weeks' GA and are indistinguishable from the adult by term.
- Sight: Papillary response to light appears as early as 29 weeks' GA and is present consistently by 32 weeks' GA.
- Smell: By 28-32 weeks' GA, premature infants appear to respond to concentrated odor.