Hyperbilirubinemia

Definition

Infants ≥ 35 wks GA: TB > 95th percentile (2004 AAP Guidelines/Bhutani nomograms)

Pathophys

↑ RBC turnover, ↓ clearance (UGT1A1 activity), ↑ enterohepatic recirculation. **Within first 24 hours of life = ALWAYS pathologic.**

Indirect	Direct - ALWAYS pathologic
• **Breastfeeding jaundice**: first week of life due to insufficient feeding • **Breast milk jaundice**: persistent after first week of life, unknown mechanism, ?substance in milk blocks bilirubin breakdown • **ABO or Rh incompatibility**: suspect if set-up, previous child with hemolytic disease of the newborn, fetal hydrops, jaundice in the first 24 hours of life • Red cell membrane defects (spherocytosis and elliptocytosis) • G6PD deficiency • Sepsis • Decreased clearance – Crigler-Najjar syndrome, Gilbert syndrome • Intestinal obstruction	• Anatomic (intestinal obstruction, cysts, tumors, **biliary atresia**) • **Infection/sepsis** • Metabolic • Gestational alloimmune liver disease (neonatal hemochromatosis

Evaluation

- **Healthy infants**: Obtain routine transcutaneous bili (TcB)i @ DOL2 and plot on bilitool.org. If ABO/ Coombs set-up, check TcB @ 12HOL and 24HOL.
  - Determine **follow-up frequency** based on **risk for developing severe hyperbili** (use risk zone, which is generated by nomogram + GA + presence of hyperbili risk factors [jaundice in first 24 hours, ABO incompatibility/positive direct Coombs, GA 35-36w, sibling required phototherapy, cephalohematoma, exclusive breastfeeding, East Asian race])
  - Determine **phototherapy threshold** based on **neurotoxicity risk** (use GA + presence of neurotoxicity risk factors [isoimmune hemolytic disease, G6PD, asphyxia, lethargy, temp instability, sepsis/acidosis, albumin <3.0)
    - If above phototherapy threshold, check total serum bili (TSB). Once TSB is used, TcB may not be used again.
- Consider checking CBC, retics, hemolysis labs (LDH, haptoglobin, smear), G6PD activity.

Management

Reconsider early discharge (before 72 HOL) if bili high ntermediate risk+. Phototherapy as per bilitool curves. If near exchange levels: aggressive phototherapy, aggressive hydration (IV+PO). IVIG for isoimmune hemolytic disease. Call blood bank before exchange transfusion

Infant of a Diabetic Mother (IDM)

Increased Risks

LGA (BW ≥ 4000g or ≥ 90th percentile for GA) → birth injury (shoulder dystocia, clavicular fracture), preterm birth, **RDS/TTN, hypoglycemia** (maternal hyperglycemia → infant hyperinsulinism → hypoglycemia; resolves in 2-4d), hypertrophic cardiomyopathy (of interventricular septum), **hyperbili, polycythemia** (Hct > 65% → hyperviscosity → exchange transfusion if symptomatic)

Congenital Anomalies

Transpo of great arteries, double outlet RV, VSD, truncus arteriosus, hypoplastic L heart syndrome, **small L colon syndrome** → functional lower bowel obstruction (contrast enema is diagnostic and curative)

Management

Obtain glucose at 2-4HOL, then pre-feed until glucoses stabilize. Consider checking Hct in first hours of life. Check Ca++/Mg if jittery or seizure

IDM continued on next page →