Neonatal Hyperbilirubinemia

Children's Hospital LOS ANGELES CARE NETWORK

Hyperbilirubinemia is defined as a total serum bilirubin level greater than 1.5 mg/dL. More than 60% of healthy newborns develop jaundice during the first week of life. There are two types: unconjugated/indirect and conjugated/direct hyperbilirubinemia.

Unconjugated hyperbilirubinemia is often transient and benign. Common causes include physiologic jaundice in the first week of life or late onset jaundice in breast-fed infants. Other causes may include hemolysis (especially if reported jaundice within first 24hours of life) or other common risk factors for excessive red-blood cell turnover. Less frequently, it can be a manifestation of an underlying disorder with excessive production and/or abnormal hepatic clearance of bilirubin.

Conjugated hyperbilirubinemia is always pathogenic and defined as a conjugated bilirubin concentration greater than 2 mg/dL or more than 20% of total bilirubin. Incidence is 1 in 2,500 live births.

The initial step in the evaluation of an infant with jaundice should focus on distinguishing between unconjugated and conjugated hyperbilirubinemia.

Unconjugated hyperbilirubinemia	
Initial evaluation	- Labs: Total, conjugated and unconjugated bilirubin - Plot the total bilirubin on the bilirubin normogram - If total bilirubin high, then proceed with getting further testing including complete blood count, reticulocyte count, coombs test, peripheral smear Management depending upon the bilirubin normogram and may require intensive phototherapy, IVIG or exchange transfusion. **When To Refer to Hepatology/Gastroenterology** - Persistently elevated or rising unconjugated bilirubin - Persistently elevated or rising AST/ALT
Conjugated hyperbilirubinemia	
Initial evaluation (< 2 weeks)	- Labs: Total, conjugated and unconjugated bilirubin - Repeat labs in 5-7 days and continue close follow up if total/conjugated bilirubin are rising
Follow up evaluation (2—4 weeks old)	- History including questions regarding prenatal care, maternal infections, and family history of liver diseases. - Physical exam with special attention to growth, organomegaly, heart murmur, and stool color. - Labs: complete blood count, reticulocyte count, liver testing (AST, ALT, total bilirubin, conjugated bilirubin and GGT) and coagulation profile (PT/INR) - Imaging: complete abdominal ultrasound with Doppler (If possible, otherwise will be done by GI team)

Neonatal Hyperbilirubinemia

	When To Refer to Hepatology/Gastroenterology - Persistently elevated or rising conjugated bilirubin - Persistently elevated or rising AST/ALT

Referral Checklist

1) Clinic Notes: Initial and most recent clinic notes relevant to referring diagnosis including growth chart
2) Lab Work
3) Imaging Tests

URGENT…if patient is < 2 months of age with conjugated hyperbilirubinemia and pale stools.
Call (323) 660-2450 and ask for the Hepatologist on call to be paged.