Admission and Management of Jaundice in Kangaroo Care NICU and Wards

Introduction:

Jaundice occurs because baby's body has more bilirubin than it can get rid of. Bilirubin is a yellow substance that's made when the body breaks down old red blood cells. It leaves the body through urine and stool.

Jaundice is the most common morbidity in the first week of life, occurring in 60% of term and 80% of preterm newborn. It is the most common cause of readmission after discharge from birth hospitalization. Jaundice in neonates is visible in skin and eyes. Ongoing adaptation to the extra uterine environment. Most jaundice is mild and physiological in origin, it cannot safely be automatically assumed to be either. Jaundice may be a sign of pathology and demands evaluation and rational management.

Criteria for Admission into NICU for Phototherapy:

1. Term infants > 37 weeks with SBR > 18 mg/dl with risk factors and > 19 mg/dl without risk factors.
2. Infants with 10 % weight loss
3. Preterm infants < 37 weeks < 2.5 KG requiring double surface PT in ward
4. Jaundice occurring within 24 hours of age
5. Levels near the exchange transfusion range
6. Unwell baby with Jaundice

Investigations:

1. NICU admission babies should have following investigations**:**

   FBC, Peripheral smear, LFT, TSH (if not done) and reti count and urine culture (if required).
2. If persistent Jaundice required phototherapy: FBC, Peripheral smear and LFT.
3. Any neonate who is clinically jaundiced within the first 24 hours requires urgent investigation to exclude hemolysis due to Rhesus or ABO incompatibility, including TSB, FBC and film and mother and baby's blood group & DAT.

4. Septic screen including blood and urine culture and sensitivity (C&S) if there is clinical concern about possible sepsis.

Prolonged jaundice:

Babies with prolonged jaundice (visible jaundice persisting for greater than 2 weeks in term babies and greater than 3 weeks in preterm babies) should be reviewed for history suggestive of obstructive jaundice e.g. echoic pale stools. In all babies with prolonged jaundice, blood should be taken for total and conjugated bilirubin level.

- Predominantly unconjugated prolonged jaundice (conjugated SBR less than 1.7 mg/dl): is usually benign breast milk jaundice but consider performing thyroid function tests to exclude thyroid agenesis/dysplasia or hypopituitarism, and a urine culture to exclude a UTI.
- Predominantly conjugated prolonged jaundice (conjugated SBR greater than 1.7 mg/dl): is always pathological and the baby should be investigated for intra- hepatic (e.g hepatitis) and obstructive (e.g biliary atresia) causes of prolonged jaundice.

Management of babies receiving phototherapy:

1. Phototherapy is started to avoid exchange transfusion and bilirubin encephalopathy.
2. Babies receiving phototherapy should be nursed naked in an incubator or cot with lid, a minimum of 40cms from the light. In addition Phototherapy equipment should be checked for safety.
3. The baby's temperature should be measured and recorded at least 4 hourly, more frequently if unstable. The baby should be assessed regularly for signs of dehydration using urine output or frequency of wet nappies.
4. The baby should be turned regularly to maximize exposed area.
5. The baby's nappy should be as small as possible to maximize exposure while still protecting the gonads from any potential risk of damage.
6. The baby's eyes should be shielded using eye shields or a protective shield to avoid retinal damage.
7. If eye shields are used, these should not be applied too tightly to avoid constriction to scalp and excessive pressure over eyes and they should be removed regularly and the baby's eyes inspected for signs of infection.

8. Application of topical creams or lotions should be avoided as there is a risk of burns and blistering 9. Particular attention should be paid to careful cleaning and drying of the skin, especially if the stools are loose.
9. Consider not nursing babies on a white sheet because of reflective glare.
10. Parents should be informed of the need for phototherapy and normal parental contact encouraged for routine care. The baby may not always have to receive continuous phototherapy and the phototherapy unit can be removed/switched off during cares and feeds (for up to 30 mins in every 3hour period is acceptable while on single phototherapy). However, if the baby is requiring multiple phototherapy this should not be interrupted.

Continuous Feeds in NICU:

Baby admitted to NICU for double surface phototherapy or more should be started on continuous feeds of 150 ml/kg/day or more through NG Tube.

Evidence used:

The contemporary evidence base has been used to develop this guideline.

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