Introduction

Hyperbilirubinemia also known as neonatal jaundice is a common condition affecting approximately 60% of term and 80% of pre-term babies in the first week of life\(^1,2\). Hyperbilirubinemia occurs due to the shorter red blood cell lifespan, higher red blood cell concentration and slower metabolism and excretion of bilirubin which leads to higher levels of unconjugated bilirubin circulating\(^3\). In most of these infants the condition will resolve without any need for intervention\(^4\). However, for some, there is a risk of developing severe hyperbilirubinemia which can lead to acute bilirubin encephalopathy (kernicterus)\(^4\). Severe hyperbilirubinemia has been on the rise in North America and Europe, with increasing frequency in term and near-term infants (Manning D, 2007). The goal of early identification and intervention is to decrease potential morbidity and mortality associated with bilirubin encephalopathy and to minimize disruption to exclusive breastfeeding and parent-child bonding in the neonatal period\(^3\).

This approach for early detection and intervention for hyperbilirubinemia in the newborn is recommended by the Clinical Expert Advisory group for the Ministry of Health and Long-Term Care Quality-Based Procedure on Hyperbilirubinemia in Term and Late Pre-Term Infants, as well consensus from the guideline group.

Purpose:

1. improve early identification of infants at risk for severe hyperbilirubinemia and to decrease potential associated morbidity and mortality;
2. enhance the quality of care delivered by streamlining treatment management;
3. promote exclusive breastfeeding; and
4. enhance appropriate utilization of community resources and ensure appropriate follow up.

Target Patient Population

- previously healthy infants
- age <14 days
- born at or ≥ 35 weeks gestational age

Exclusion Criteria:

- With conjugated hyperbilirubinemia defined as > 18 \(\mu\)mol/L or greater than 20% of the TSB concentration;
- Meeting NICU direct admission criteria for exchange transfusion or IVIG administration;
- With suspected acute bilirubin encephalopathy or displaying clinical findings associated with acute bilirubin encephalopathy such as hypotonia, weak suck or high pitched cry; and
Inpatient Management of Hyperbilirubinemia management pathway

Implementation and Evaluation Plan

Implementation Plan

- Inpatient Medical Director to communicate updates in practice to the Division of Paediatric Medicine;
- Resident chiefs to communicate updates in practice to the resident group; and
- Education and awareness building by the guideline group during resident/fellow orientation, resident educational rounds, and nursing orientation/staff meetings/situational bedside teaching

Evaluation Plan

©The Hospital for Sick Children (“SickKids”). All Rights Reserved. This document was developed solely for use at SickKids. SickKids accepts no responsibility for use of this material by any person or organization not associated with SickKids. A printed copy of this document may not reflect the current, electronic version on the SickKids Intranet. Use of this document in any setting must be subject to the professional judgment of the user. No part of the document should be used for publication without prior written consent of SickKids.
• Monitor average length of stay
• Monitor # of infants admitted with hyperbilirubinemia who had rebound bilirubin level checked prior to discharge

Guideline Group

1. Iris Liu, Nurse Practitioner, Division of Paediatric Medicine
2. Dr. Beth Gamulka, Staff Physician, Division of Paediatric Medicine
3. Dr. Janaki Vallipuram, Staff Physician, Division of Paediatric Medicine
4. Aliya Jaffer, Nurse Practitioner, Division of Paediatric Medicine
5. Fatma A. Rajwani, PT, Quality Management

Internal Reviewers

1. Shawna Silver, Staff Physician, Division of Paediatric Medicine
2. Carolyn Beck, Staff Physician, Division of Paediatric Medicine

References

3. Fetus and Newborn Committee, Canadian Paediatric Society. Guidelines for detection, management and prevention of hyperbilirubinemia in term and late preterm newborn infants (35 or more week’s gestation). Paediatric Child Health 2018; 12(Suppl B):1B-12B

Attachments:

- care pathyway_march 27.pdf
- COMMUNITY HOSPITAL CONTACTS.pdf
- hyperbilirubinemia_intensive phototherapy.pdf
- hyperbilirubinemia_newborn_fig3.pdf
- Isolette Tip Sheet.docx
- Providing Effective Phototherapy_May 26 2020.pdf