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Editorial

Kernicterus; Stills A Problem?

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Marked hyperbilirubinemia can lead to acute bilirubin encephalopathy (ABE) and evolve into chronic bilirubin encephalopathy (CBE) or kernicterus, patient can sequel of choreoathetoid cerebral palsy, dystonia, sensorineural hearing loss, paralysis of upward gaze, and dental enamel dysplasia.

The prevention of kernicterus remains a serious clinical concern for neonatal caregivers worldwide since it is a preventable condition. Huge efforts were done to reduce and prevent ABE from happening and there were several guidelines and clinical care pathways established to reduce the incidence of severe hyperbilirubinemia and bilirubin encephalopathy. At the same time public education and increase in the awareness of the condition has been done. Yet; some cases of kernicterus are still reported worldwide [1].

Here in, we would like to review our approach to risk assessment for the development of severe hyperbilirubinemia and bilirubin neurotoxicity, as well as treatment measures to control hyperbilirubinemia in new-borns. We think that any of the international guidelines should be modified based on the local culture will give better outcome.

The most important step in preventing CBE is the identification of the patients who are at risk of having hyberbilirubinemia and start them on treatment early.

There are risk factors for sever hyperbilirubinemia that were described in different guidelines, from those risks we think, glucose-6-phosphate dehydrogenase (G6PD) deficiency, jaundice observed in the first 24 hours of life, family history of jaundice that necessitate the phototherapy are the most prevalent risks that may be overlooked by the physician. One of the factors that we think may contribute to the outcome is the early discharge especially if the outpatient follow up is not assured.

Most of the risk factors will be identified by taking a proper history and having physical examinations, and laboratory investigations have a major role in our approach.

In addition to the visual inspection we are getting, we are doing a routine Transcutaneous bilirubin (TcB) screening or serum bilirubin measurement at age of 18 hours of life (or earlier by serum bilirubin if the patient had clinical jaundice), daily and before discharge, as visual inspection is inaccurate in determining both the presence and severity of jaundice. With this we find some patient will need treatment and the plan for follow up can be set more accurately depending on the level of bilirubin. This is important to be considered for babies who will be discharged early from the hospital (2-3 days).

Some studies demonstrate that implementation of routine bilirubin screening prior to discharge is associated with significantly reduced numbers of infants with extreme or hazardous hyperbilirubinemia [2].

Our screening tool is the TCB to help determine whether a TSB should be measured or not. Accuracy is best at lower TSB levels Thus, it is important to obtain a TSB to avoid missing a high TSB when using TCB to screen for hyperbilirubinemia [3]. In general Serum bilirubin levels should be done for all infants who are clinically jaundiced within the first 24 hours or for those with a high TcB measurement.

It is crucial to identify those who are at risk babies and have a mechanism of follow up which could be in the clinic or by hav-

ing home care team dedicated for new-borns. This will depends on multiple factors including availability of hospital beds, parent's education and the availability of resources.

Parent's education and awareness plays significant role in this and local guideline should consider the level of parent's education and reliability as factor in establishing an efficient and practical guideline.

It is universally agreed that there is no reliable strategy to identify all infants who will develop serious hyperbilirubinemia, nor any one bilirubin level that predicts the development of neurologic damage, but we think with an approach like this together with the awareness about the risk factors and complications of sever hyperbilirubinemia can help to reduce the cases of kernicterus.

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