NEWS IN BRIEF

Recent Guidelines to Manage Neonatal Hyperbilirubinemia

The American Academy of Pediatrics recently updated the guidelines to manage hyperbilirubinemia in newborns more than 35 weeks of gestation. The last recommendation in 2004 was followed by some modifications in 2009. One key guideline had been to suggest universal pre-discharge screening of all babies by total serum bilirubin (TSB) or transcutaneous bilirubin (TcB). Newer evidence discovered since the last guideline has been reviewed to develop the new guidelines in 2022.

Breast feeding jaundice which has been seen in babies on inadequate feeds and excessive weight loss, between 3-5 days has been renamed "suboptimal intake hyperbilirubinemia". Pediatricians are advised to encourage breast feeding within the first hour after birth and at least 8 times in 24 hours. Hemolysis must be suspected if TSB or TcB rises >0.3 mg/dL/hour in the first 24 hours and >0.2 mg/dL/hor in next 24 hours. A DAT (direct antibody test) is recommended if hemolysis is suspected. End tidal CO measurement may also be useful to identify hemolysis. Risk for neurotoxicity is increased if gestational age is <38 weeks, serum albumin <3 gm/dL and in presence of hemolysis, sepsis or clinical instability. All infants should be visually assessed for jaundice every 12 hours till discharge. Any newborn who is clinically jaundiced in the first 24 hours must undergo TSB or TcB. All newborns must have a TcB or TSB between 24-48 hours after birth or pre discharge if that is earlier. Breast fed babies who are still jaundiced at 3-4 weeks or formula fed babies who are jaundice beyond 2 weeks must undergo testing for direct hyperbilirubinemia.

The phototherapy thresholds based on gestational age and hour of life have been slightly increased. Whenever possible phototherapy must be provided in the mothers room. If TSB reaches 2 mg/dl below exchange transfusion levels, escalation of care protocols must be instated. This includes intravenous fluids, intensive phototherapy and 2 hourly TSB measurements. IVIG 0.5-1 gm/kg may be given over 2 hours and repeated after 12 hours if DAT is positive. Bilirubin to albumin ratio cut off's for gestation may be used to decide need for exchange transmission. (*Pediatrics. 2022;150: e2022058859*).

Adopt a Child With Tuberculosis Campaign

An innovative idea in India's drive to eliminate tuberculosis is the *Nikshay Mitra* concept. As part of the TB Mukt Bharat Abhiyan started in September, 2022, individuals as well as organizations can adopt one or more patients with tuberculosis and support them in various ways. This includes nutritional support, additional investigations or vocational support. A minimal commitment of one year is required, e.g., one may provide a child with a food basket every month. In order to become a *Nikshay Mitra*, a person has to visit the official website of the scheme (*https://communitysupport.nikshay.in/*). They then have to search for the state, district, block and peripheral health institution to make a donation or adopt a TB patient. The aim is to reduce the financial burden of patients with tuberculosis, increase community support and reduce the stigma of tuberculosis. Consent will be taken from patients prior to enrolling them in the campaign. The aim is to make India tuberculosis free by 2025, about 5 years before the global target.

India witnessed a 19% spike in patients with tuberculosis in 2021 compared to 2020, and presently has the maximum number of new cases in the world. It is hoped that public participation will help in winning India's long standing battle against tuberculosis. (*Indian Express 19 September, 2022*)

CAR-T Cell Therapy for SLE

Five patients with treatment resistant systemic lupus erythematosus (SLE) were treated with CAR-T cell therapy with favorable results. The core problem in SLE are auto-antibodies against double stranded DNA and other nuclear antigens, which trigger an immune complex mediated injury in various organs including kidneys, heart, lungs and skin. Hence, B cell depletion is an attractive approach to treatment of SLE. While rituximab is one of the commonest B cell depleting agents in use, it fails to completely eliminate all autoreactive B cells, especially those in lymphatic organs and inflamed tissues. In CAR-T cell therapy, T-cells of the patients are genetically modified to encode a receptor which binds to the target to be eliminated. In this trial, autologous T cells from patients with SLE were transduced with a lentiviral anti-CD19 CAR vector, expanded and re-infused. This resulted in a deep B cell depletion and complete remission of all five patients. Even after reappearance of B cells after a mean of 110 days, there was no recurrence of symptoms, suggesting that there had been a complete reset of the immune system. CAR-T cell therapy is promising to revolutionize medicine, especially in the field of oncology and immunology. (*Nature Medicine 15 September 2022*)

GOURI RAO PASSI
gouripassi@gmail.com