NEWS IN BRIEF

The TRUNCATE-TB trial

Reducing anti-tubercular drug regimens to 8 weeks has long been a cherished dream in public health policy. In clinical trials it has been seen that 85% of patients on standard anti-tubercular therapy (ATT) are cured after 2-4 months. Hence for the vast majority a 6 month therapy is over treatment.

In the TRUNCATE-TB trial, new regimens were evaluated for rifampicin sensitive tuberculosis. One was standard 6 month ATT, the second was initial two months of high dose of rifampin and linezolid and the third was bedaquiline and linezolid, each in combination with isoniazid, pyrazinamide, and ethambutol. In patients who were symptomatic even after 8 weeks, the 5 drug therapy was extended to 12 weeks. If they continued to be symptomatic, they were switched to standard therapy.

Poor outcomes were seen in 3.9% of patients on standard regimen, 11.4% with rifampicin-linezolid and 5.8% on the beda-quiline-linezolid group. From this it appears that the beda-quiline- linezolid regimen is non-inferior to the standard regi-men. Bedaquiline lingers in the body for several months after stopping. Hence, there is a theoretical concern that bedaquiline resistance may develop because of inadvertent monotherapy when other drugs are stopped. However, this was not noted in the trial. Bedaquiline also has a black box warning due to risks of long QT syndrome. However, no increased adverse effects were noted in the trial. Likewise, no increase incidence in myelo-suppresion and lactic acidosis were noted with linezolid.

This trial has shown encouraging results that we may be able to shorten the onerous 6 month therapy in the vast majority of patients with tuberculosis. (*N Engl J Med Feb 20, 2023*)

Anemia screening with smartphone colorimetry

A study from a teaching hospital has tried to study the use of smart phone based colorimetry to identify anemia in children. Photographs were taken of the sclera, lower palpebral conjunc-tiva and mucosa of the lower lip. The problem of variation due to different ambient lighting was tackled using two different methods called white balancing algorithms and ambient subtrac-tion. The metric r-chromaticity (the ratio of the red channel of a pixel to the total signal at that pixel) was used to represent blood chromaticity.

A total of 62 children below 6 years were studied. Hemoglobin was also tested for each child using HemoCue Hb 301, which is a standardized point of care anemia screening device. Imaging was done using a handheld smartphone.

The technique was useful in identifying children with anemia (Hb <11 g/dL) with a sensitivity of 92.9% (95% CI 66.1% to 99.8%) and a specificity of 89.7% (72.7% to 97.8%). However, there were not enough data points to train the algo-rithm to give a specific value of hemoglobin. Smart phone based technology for diagnosis of hyperbilirubinemia already exists and screening for anemia using this technology will go a long way in identification and intervention for anemia at the grass root level. (*PLoS One 2023*)

Soothing fussy babies using the transport response

About 20-30% of babies cry excessively without known organic problems. It has been seen that they often calm down when they are picked up and carried. This is called the transport response, and has been seen in other animals like mice, rats, lions and monkeys. An evolutionary basis for this response exists. It is felt that parents usually pick up and carry off their babies in dire emergencies and the offspring cooperate by maintaining silence since it is a matter of survival.

The phenomenon was studied in two centers in Japan and Italy on 30 mother- baby dyads. Periods of fussiness were filmed and physiological responses of the babies were monitored using Holter CG. Mothers were asked to either *i*) hold and sit with the baby; *ii*) hold and move with the baby; *iii*) lay the baby in a crib; or *iv*) move the baby in a crib or pram.

Some delightful information has come out of this study. It was seen that the majority of babies calm down after 5 minutes of movement either in the mothers arms or in the pram. Just sitting or lying them down in the pram did not soothe them so well. Five-minute walking should be on a flat and clear passage and at a steady pace, preferably without abrupt stops or turns. Another useful data was that laying them down immediately resulted in recurrence of fussiness in 35% of babies. It is seen that early sleep stages for small infants last about 5-8 minutes. Hence, if babies were held for about 8 minutes after they calmed down there was no recurrence of crying spells.

The bottom line is: if you have a fussy baby hold and move him steadily for 5 minutes and after he has calmed down, put him down only after he has entered deep sleep i.e., after about 5-8 minutes. (*Current Biology 2022*)

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