NEWS IN BRIEF

Monoclonals for Malaria

A new tool in our armamentarium against malaria is born. CIS43LS is a monoclonal antibody against a major protein of the sporozoite stage of falciparum malaria - *P. falciparum* circumsporozoite protein (PfCSP). This protein is important during the entry of the sporozoites into the hepatocytes.

A recent trial in healthy adults in Mali demonstrated a proportional efficacy of 88.2% (in the high dose 40 mg/kg) vs 75% (in the low dose 10 mg/kg) when compared to placebo. A total of 330 healthy adults were randomized into the three groups and followed up for 6 months. *P. falciparum* was detected on smears in 18.2% of the high dose antibody group, 35.5% in the low dose antibody group and 78.2% of the placebo group.

What could be the role of monoclonals in the fight against malaria? Currently the WHO has approved the use of the malaria vaccine (RTS,S) in children living in moderate to high *P. falciparum* transmission areas like in sub-Saharan Africa. This four dose vaccine (0, 1, 2, 20 mo) in children above 5 months has a vaccine efficacy of 36% over four years. Additionally, bed nets and chemoprophylaxis during the malaria season is recommended.

The newly tested monoclonal antibody appears to have high efficacy in preventing infections over a 6-month period and could be advised at the onset of the malaria season. The major logistic problem would be the fact that it is an intravenous drug to be given over 30 minutes. To circumvent this a subcutaneous injection has been developed and is undergoing trials. It may also be an attractive alternative for travelers to malaria endemic regions. (NEJM 31 October 2022)

Deaths in Gambia Related to Cough Syrups

In July and August this year, physicians in Gambia noticed a sudden spike in children developing vomiting and fatal renal failure. Nearly 70 children died. Investigations have implicated four cough syrups - Promethazine Oral Solution, Kofexmalin Baby Cough Syrup, Makoff Baby Cough Syrup and Magrip N Cold Syrup; all manufactured by Maiden Pharmaceuticals Limited in Haryana, India. Investigations are under way in India and Gambia.

The renal failure is suspected to be due to contamination with diethylene glycol and ethylene glycol. They are considered to be cheaper substitutes of the normal solvents like glycerine and propylene glycol. Similar deaths have been reported in the past from India, USA, Bangladesh and Nigeria. Last year, 12 children died in Udhampur after ingesting a cough syrup called Coldbest-PC due to diethylene glycol contamination, which was then withdrawn from the entire country. Stringent quality control at every step is required if we are to avoid these preventable deaths. (*The Hindu, 17 October 2022*)

Medical Education in Hindi

Madhya Pradesh (MP) has become the first state to introduce undergraduate medical education in hindi. Medical textbooks for anatomy, physiology and biochemistry have been translated into Hindi. It took 97 medical college teachers more than 5000 hours of brainstorming and hard work to translate the books. Students enrolling this year for an undergraduate course in medicine will have the option to learn in Hindi or English in all 13 state government colleges of MP. Textbooks in Hindi for the senior batches will become available from next year.

Ninety percent of people in MP speak Hindi, and higher education may become more accessible to the poor. However, critics have said that the textbooks are merely full of English medical terms written in Hindi without any fundamental contribution by the translators. Some others have prophesized that medical education other than in English will result in distancing of Indians from the global medical community. (*The Economic Times, 17 Oct 2022*)

Pompe Disease Treated In-Utero

Children with infantile Pompe disease develop hypertrophic cardiomyopathy in utero. So even if enzyme replacement is started at birth, it may be somewhat late. In a dramatic story, a baby who was diagnosed to have Pompe disease was treated with enzyme replacement (Alglucosidase alpha) in utero from 24 - 34 weeks. It was infused via the umbilical vein 2 weekly at a dose of 20 mg/kg. One of the chief investigators of the study was Priya Kishnani, an Indian origin physician-scientist in Duke's University, who has been working for children with Pompe for the past several decades.

At birth, her left ventricular mass index was normal. Enzyme replacement was continued from day 4 of life every 2 weekly. At one year follow up, she had a normal CPK and normal echocardiogram. The child also mounted a lower immune response to enzyme replacement compared to children who are treated postnatally – antenatal therapy appears to have this added benefit. This case report in the NEJM highlights that timing is everything in medicine. Sometimes even the day of one's birth may be too late! (*NEJM, 9 November 2022*)

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