NEWS IN BRIEF

Lactating mothers transfer SARS-CoV-2 antibodies to infants after vaccination

With COVID-19 cases skyrocketing, people have realized the importance of vaccines and are overcoming vaccine hesitancy. The Government of India has reduced the minimum age for vaccine eligibility to 18 years from May 1, 2021. A common query now is whether lactating mothers are candidates for the vaccine.

A study published recently in JAMA found robust secretion of SARS-CoV-2 specific IgA and IgG antibodies in breast milk for 6 weeks after vaccination. It was conducted on 84 lactating women, with 2 doses of the Pfizer-BioNTech vaccine administered 3 weeks apart. IgA secretion was evident as early as 2 weeks after vaccination and peaked at 4 weeks. A spike in IgG occurred at 4 weeks. These antibodies showed strong neutralizing effects, suggesting a potential protective effect in infants. No mother or infant had any serious adverse effect.

The World Health Organization (WHO) recommends use of Pfizer-BioNTech, Moderna, AstraZeneca, and Janssen vaccines in breastfeeding women. The Federation of Obstetricians and Gynaecologists Society of India (FOGSI) has also suggested use of these vaccines in breastfeeding women, as their benefits seem to far outweigh any theoretical and remote risks. Although, no data are available on the use of Indian vaccines in lactating women, the Ministry of Health and Family Welfare (MOHFW) has recently included this subgroup for vacination.

With COVID cases soaring and an impending third wave, this inclusion of lactating women for vaccination seems reasonable. Studies should be done to assess the protective effect imparted by the Indian vaccines in lactating women. (JAMA, 12 April, 2021)

Does the double mutant B.1.617 SARS-CoV-2 variant evade vaccine-induced immunity?

The B.1.617 variant is termed the 'double mutant' as it simultaneously carries two important mutations in the receptor binding domain – L452R and E484Q. The L452R mutation was found in the Californian variant, which was highly transmissible. The E484Q mutation is similar to the E484K mutation found in the rapidly spreading South African (B.1.351) and the Brazilian (P.1) variants. The combination of these mutations created an apprehension that it could increase transmission and surpass immune defenses. It has recently been classified by the WHO as a 'variant of concern'.

Researchers screened 146 COVID-19 cases in Maharashtra using next generation sequencing and found the double mutant variant in 15 of them. The neutralization capacity against the prototype B1 (D614G) variant was compared with the B.1.617 variant using sera of Covaxin recipients. Although a drop in neutralization was detected with the B.1.617 variant, it was limited to 2-fold (GMT ratio1.95). When sera from COVID-19 recovered people (infected with other variants) were compared with sera from Covaxin recipients, the neutralizing capacity against B.1.617 was similar. Early results of another study have shown that both convalescent sera and Covishield-vaccinated sera offer protection against the B.1.617 variant.

Although further studies would be needed to confirm these findings, results of these studies assuring neutralization of B.1.617 variant with sera of Covaxin and Covishield vaccine recipients would provide the much-needed boost to the COVID-19 vaccination program in India. (*BioRxiv preprint, 23 April 2021*)

Myopia in children post COVID-19 home confinement

Apart from the damage caused by the SARS-CoV-2 virus itself, there have been ill-effects due to public health measures taken to combat the virus. One among them is the impairment of visual health in school-aged children post COVID home confinement.

To prevent COVID-19 spread, nations across the world have closed their schools and begun online classes. This has reduced the time spent by children in outdoor activities and increased the screen time. A Chinese study found a significant myopic shift (approximately –0.3 diopters) in the 2020 school-based screen-ings compared with previous years (2015-2019) for children aged 6-8 years. The change was not significant in older children.

This suggests that younger children are in a critical period for the development of myopia and their eyes are more sensitive to environmental changes. While myopic children can see well through glasses or contact lenses, myopia increases the risk of high myopia later in life, which in turn can cause retinal detachment/tears, macular degeneration, glaucoma, and blindness.

With the pandemic far from over, public health authorities should take this into consideration and plan an intelligent lockdown. Parents should plan an appropriate indoor life for younger children and restrict their screen times. (JAMA Ophthalmology, 14 January 2021)

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