

A SHOT OF HOPE

Should India delay 2nd vaccine dose to avoid 3rd Covid wave?

A 12-week gap will allow more people to get their first shot. For Covishield, it also boosts immunity

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In a few weeks, India might reach the peak of its second Covid wave and then slide towards a period of relative calm. Could there be a third wave after that? Hopefully not, if we vaccinate fast. The more people we immunise, the less room there is for the virus to spread.

But there are two big hurdles for India's vaccination drive. First, the vaccine supply isn't enough. The second constraint is self-imposed. We are giving the two vaccine doses too close to each other.

The two doses of Covishield are given 6-8 weeks apart, while for Covaxin the interval is 4-6 weeks. So, if we make 20 crore vaccines over two months, we cannot vaccinate 20 crore people with them. A large part of the supply has to be set aside for second doses.

The UK was in the same quandary in December. Its new variant had caused an explosion of infections. That's when it decided to take the "first-dose-first" approach, trusting that "some protection for all" would be better than "full protection for some".

Critics said the new schedule was risky as it had not been tested in clinical trials. But four months later, results show the UK made the right call. Since then, some other countries have also delayed their second doses to focus on the first. Germany has adopted the 12-week interval for the AstraZeneca vaccine (Covishield), while Canada gives all second doses after 4 months.

12-week gap is better

Although the UK decision was controversial, it was not a desperate gamble. The scientists behind it relied on "expert judgement about how vaccines generally work," a Wellcome Foundation report says. They also had supporting data from the AstraZeneca trial.

When AstraZeneca published trial results last November, some volunteers who were “mistakenly” given a half-dose first were found to have better immunity than those who got two full doses. The half-dose group had also got their second shot later.

“The error raised questions about whether the better immune response was down to the half-dose or the time between shots,” says an article in The Wall Street Journal. Scientists say the longer gap mattered more.

A vaccine needs time to build immunity. For the first two weeks after vaccination, its effect is negligible. But then, it starts increasing. However, you shouldn't delay the second dose too long because then the first dose's effect starts waning. The challenge is to find the sweet spot where the effect of the first dose peaks, so the second dose can raise it further.

AstraZeneca itself had recommended a 4-12 week gap. “A 12-week gap would not be long enough for that initial protection to fade,” says the Wellcome report.

How much better?

In March, The Lancet published data that showed the UK had made the right choice. It said a single dose of the AstraZeneca shot had 76% efficacy from the start of the 4th week to the end of the third month, “and antibody levels were maintained during this period with minimal waning.”

A report in Stat says a single dose of mRNA vaccines from Pfizer-BioNTech and Moderna confers 80% protection “two weeks after an initial shot,” rising to 90% after the second dose.

The AstraZeneca vaccine's efficacy rose to 81.3% with a 12-week gap, as compared with 55.1% after a 4-week gap. Among participants who were younger than 55 years, the antibody response was “more than two-fold higher (for) a dose interval of at least 12 weeks than an interval of less than 6 weeks.”

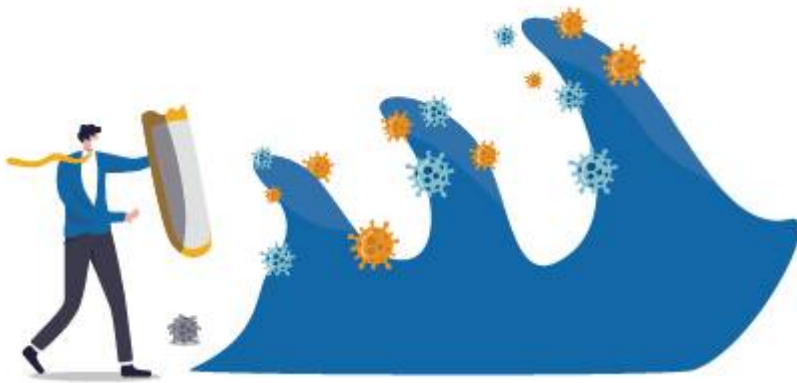
Some doubts remain

By March-end, the UK had “injected more than half its adult population with at least one shot of vaccine,” says the WSJ report. Further, it expects to give all adults at least one dose by July. New Covid cases and deaths have fallen sharply, many restrictions on activities have been lifted and the UK economy seems set to grow fast later this year.

But critics of the longer gap say it “may be less effective for older people, whose immune response to the vaccines is typically weaker than in younger people,” according to the Stat report.

Infectious diseases expert Anthony Fauci says changing the gap suddenly “could send the message that there’s no need to return for a second shot.”

India has already vaccinated a large number of senior citizens. As for people forgetting their second vaccine date, a fix can be found for that. But the more pressing concern now is to increase vaccination rapidly. For that, a longer gap might be necessary.



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