



Need for Tdap Booster for Indian Children at 10–12 y of Age

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To the Editor: Re-emergence or persistence of diphtheria and pertussis in various geographic locations of India is concerning [1–3]. Both vaccines are highly effective, but absence of natural boosting results in waning of immunity. No local data is available on duration of protection against diphtheria and pertussis in fully vaccinated children. Hence, we planned this study to find proportion of children having protective range antibodies five years after receipt of last dose of DwPT vaccine.

Eighty consecutive children with documented history of having received 5 primary DwPT vaccines, attending vaccination clinic of our hospital for tetanus-toxoid vaccination at 10 y of age, were approached and enrolled after written informed consent. Their serum was tested for anti-diphtheria toxin (DT) IgG and anti-pertussis toxin (PT) IgG by ELISA. Mean (SD) age of children was 10.8 (0.7) y. None had history of known/diagnosed clinical diphtheria or pertussis. Mean (SD) gap between receipt of last DwPT vaccine and enrolment in the study was 5.6 (0.4) y. In 63 children (78.8%), anti-DT IgG was >0.1 IU/ml, and were presumed to have good protection. Sixteen children (20%) had levels between 0.01–0.1 IU/ml (protective, but needed booster) and 1-child (0.2%), the titre was non-protective (<0.01 IU/ml) [3, 4]. Anti-PT IgG levels were <40 U/ml in 66 children (82.5%) indicative of waning vaccine-induced immunity; in 10 (12.5%) levels were 40–100 U/ml indicative of possible exposure to pertussis in previous 5 y while 4 had >100 U/ml indicating recent or ongoing acute infection with *B. pertussis*.

Our study concluded that Indian children who received five doses of the DTwP vaccine in the past, when screened

at 10–12 y of age, 20.2% and 82.5% had low titers for anti-DT and anti-PT IgG antibodies, respectively, making them susceptible for these diseases. TT has already been replaced by Td in our national immunization schedule (NIS), at 10 y; but they continue to remain susceptible for pertussis. As these titers could further decrease, booster vaccination with Tdap in NIS at 10 y could be a wise strategy.

Declarations

Conflict of Interest None.

References

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