

Tdap During Pregnancy

Recent IAP Guidelines for Immunization [1] state that “persons aged 11 through 18 years who have not received Tdap vaccine should receive a dose (Tdap) followed by tetanus and diphtheria toxoids (Td) booster every 10 years thereafter.” It would suggest that those who have received Tdap during adolescence do not need pertussis vaccine later because pertussis vaccine administered during adolescence provides long time protection and repeat dose of pertussis vaccine may cause harm. This point is further clarified in the text: “however only single administration of Tdap is permitted to all adolescents. Persons aged 7 through 10 years who are not fully immunized with childhood DTWP/DTaP vaccine series, should receive Tdap vaccine as the first dose in the catch-up series; if additional doses are needed, use Td vaccine. For these children, an adolescent Tdap vaccine is not required.”

But, under section ‘Tdap during pregnancy’, it is stated: “IAP ACVIP therefore now suggests immunization of pregnant women with a single dose of Tdap during the third trimester (preferred during 27 through 36 weeks gestation) regardless of number of years from prior Td or Tdap vaccination. Tdap has to be repeated in every pregnancy irrespective of the status of previous immunization. Even if an adolescent girl who had received Tdap one year prior to becoming pregnant will have to take it since there is rapid waning of immunity following pertussis immunization.” This suggests that Tdap is to be administered during every pregnancy to provide protection to the baby against pertussis. Will repeated doses of Tdap not cause any harm to the female who becomes mother many times? In case there is rapid waning of immunity following pertussis immunization, why men and non-pregnant women do not need booster(s) of pertussis vaccine for their own protection.

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AUTHOR’S REPLY

We thank the author for providing us an opportunity to

discuss various issues involved in the recommendation of Tdap vaccination during pregnancy. As explained in the position paper on pertussis [1], the main objective of vaccinating pregnant woman in every pregnancy is to facilitate transplacental passage of antibodies against pertussis antigens to fetus in order to accord protection to the newborn and young infant having the highest risk of exposure, and not yet eligible to receive the first pertussis shot. Though it is desirable to have monovalent pertussis vaccine for repeated vaccinations to minimize inadvertent complications of co-administered diphtheria and tetanus antigens, non-availability of such a product limit options. Admittedly, a theoretical risk exists for severe local reactions (*e.g.*, Arthus reactions, whole limb swelling) for pregnant women who have multiple closely spaced pregnancies. However, several studies on short intervals between receipt of tetanus and diphtheria toxoids (Td) and Tdap vaccine in healthy, non-pregnant adolescents and adults found no serious adverse events [2-4]. The committee believes the potential benefit of preventing pertussis morbidity and mortality in infants outweighs the theoretical concerns of possible severe adverse events. The safety of Tdap during pregnancy has been quite reassuring. Even during early trials of wP vaccination, up to 2-6 doses were administered in the third trimester of a single pregnancy at 1- to 2-week intervals without any serious adverse reaction to mother and to the fetus [5].

Yes, adolescents and adults including non-pregnant women also need protection against pertussis considering the short lived protection following first Tdap, but the strategy to offer repeated doses of Tdap was found to have very limited impact on the overall disease burden of pertussis. Further, the tactics of offering universal immunization of adolescents and adults, ‘cocooning’, and even vaccinating pregnant women immediately during post-partum period have failed to have a significant impact on incidence of pertussis amongst neonates and young infants. Repeated vaccinations with Tdap to this section would not be a cost-effective strategy considering short-lasting protection, lack of herd effect, and almost negligible impact on infantile pertussis rates. Further, it may entail a theoretical risk of accumulation of unwanted adverse effects due to co-administered diphtheria and tetanus antigens. The issue of adding second dose of Tdap was discussed in detail during one of the recent meetings of CDC Advisory Committee on Immunization Practices (ACIP), which concluded that adding second Tdap would have very limited reduction of disease burden, and would not be a cost-effective intervention.

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Outcome of ELBW Neonates: A Raveling Picture

We appreciate the efforts of the authors for presenting the comparison of the two cohorts of extremely-low-birth-weight (ELBW) babies, and to appraise the care of these babies with many modern and available modalities [1]. However, we wish to make a few comments:

1. It was concluded that survival of E2LBW neonates has improved whereas authors have stated many was of times that the overall survival was similar in two cohorts.
2. It was also observed that some important factors for mortality and morbidity were significantly higher, namely respiratory distress syndrome (RDS) and sepsis, in 2001-02 cohort [2].
3. Authors state that there was a significant decrease in mortality in 28 to 30 weeks neonates in 2009-10 cohort without comparing the baseline characteristics and interventions in two cohorts.
4. As both the groups had a similar rate (64%) of mechanical ventilation, it may not be appropriate to associate this to intraventricular hemorrhage (IVH) without any supporting data on determinants like hypoxemia, hypercarbia, peak inflation pressure and duration of ventilation [3,4]. However, higher use of high frequency ventilation may be related to IVH [5].
5. It is evident from the data that 2009-10 cohort had significantly more cases with maternal and obstetric complications, low Apgar scores and lesser birth weight. The absence of comparison of severity of illness at the time of admission is a major limitation to

reflect a reliable image of optimization or improvement in newborn care.

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AUTHOR'S REPLY

We thank authors for their comments on our article. We would like to clarify some of their queries:

1. The overall survival in this cohort of ELBW neonates did not change between the two epochs as clearly highlighted in the abstract; however, among neonates between 28 to 30 weeks, survival had significantly improved from 2001-02 to 2009-10.