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Tuberculosis Infection in BCG Vaccinated Children

1. A good number of BCG vaccinated children do not develop a scar. In Kerala, BCG coverage is above 95%. But in the present study(1), only 59% of children have a BCG scar. This clearly shows that the BCG scar alone, to identify the vaccinated children, is an irrational and misleading criteria. This study ideally should have been conducted as a prospective study(2,3).
2. Tuberculin induration measured, should be interpreted without any prejudice, whether the children are vaccinated or not. But this study probably brings out that the interpretation of Tuberculin induration differentially in vaccinated and unvaccinated children is baseless.

V M Kartha,
Consultant Pediatrician,
Geepee Clinic,
Perumbavoor,
Kerala, India.

E-mail: dr.v.m.kartha@sify.com

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Reply

1. We disagree. Studies have demonstrated >90% scar formation post-vaccination with BCG(1-5). These data indicate that a BCG scar is indeed a sensitive and reliable indicator of BCG vaccination. However, we do concur with Dr. Kartha that a prospective study could have had more validity but temporal and resource limitations ruled this out.
2. We do not deny that the use of a differential cut-off is unconventional. The multiple reasons for using this strategy have been described in detail in the article. Our hypothesis is that, despite tuberculin reactions appearing similar in both groups (as suggested by the data and pointed out by Dr. Kartha), vaccinated and unvaccinated children, ipso facto, have different risks of acquiring tuberculosis and developing disseminated disease that necessitates a different tuberculin cut-off reading for each group. It is an

extension of the same logic that dictates >5mm being considered a positive reaction in an HIV infected individual.

Anoop S Pulickal,
*Department of Paediatrics,
 John Radcliffe Hospital,
 Oxford OX3 9DU, UK.*

E-mail: anoop.sebastian@paediatrics.ox.ac.uk

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Usefulness of dTPa

What new information is provided by a multicentric Indian study which concludes that dTPa (Boostrix) is safe and well-tolerated at age 4-6 years?(1) It is well known that DTP is safe and well tolerated at this age. Reducing the dose of diphtheria toxoid and replacing whole cell pertussis vaccine (Pw) by acellular pertussis vaccine (Pa) is not going to make it unsafe or less tolerable to children.

The IAP Immunization Schedule recommends the use of DTP at 4-6 years of age while the GOI Schedule recommends DT; no international immunization schedule recommends low-dose diphtheria toxoid (2 Lf) at this age. So the pertinent point is whether a vaccine that contains low-dose diphtheria toxoid is effective against diphtheria when administered at this age. Antibody levels to diphtheria toxoid are known to correlate with efficacy; unfortunately the study does not mention antibody levels before

and after the administration of dTPa. Until this information is available, it is unethical to use this vaccine as a booster at 4-6 years of age.

Newton Luiz,
*Dhanya Mission Hospital,
 Potta PO, Thrissur, Kerala 680 722, India.
 E-mail: newtonluiz@gmail.com*

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