

LETTERS

BCG VACCINATION AND TB IN CHILDREN

Authors' reply to Turner and colleagues

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Turner and colleagues do not accept our conclusion that BCG prevents *Mycobacterium tuberculosis* infection without a valid mechanism and propose an alternative hypothesis for an apparent effect.^{1 2} We presented the consistent epidemiological finding of a protective effect of BCG against tuberculosis infection rather than speculating on a mechanism of action for this effect, which was not one of the stated objectives of our meta-analysis. Absence of a valid mechanism is not usually a basis for rejecting conclusions from consistently observed findings.³ Indeed, the protective effect of BCG against tuberculosis is not in doubt, even though a mechanism (and a correlate) of protection remain elusive after decades of investigation.⁴ Nonetheless, we believe that new vaccines for tuberculosis will be found only if we undertake more research to disentangle the mechanism of action of BCG vaccines, including their effects on innate and adaptive immune responses.⁵

Turner and colleagues' explanation, based on the fact that antigens used in the interferon γ release assay (IGRA) are absent from BCG, is undermined by the protective effect of BCG against tuberculosis infection when the tuberculin skin test (TST) is used instead of IGRA as a marker of infection.^{6 7} Purified protein derivative comprises hundreds of *M tuberculosis* antigens shared by BCG, so that TST results in these studies could not be subject to "original antigenic sin." The observation in our review of BCG and active tuberculosis that people

sensitised to tuberculin are less protected further argues for the vaccine's role in protecting against infection.^{8 9}

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Full response at: www.bmj.com/content/349/bmj.g4643/rr/763154.

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