

## Bacillus Calmette-Guerins vaccination at birth causing tuberculous granulomatous lymphadenitis

To the Editor

In response to the interesting case report by Al-Hassan and Ahsanullah,<sup>1</sup> I totally agree with them that it is still unclear whether tuberculous granulomatous lymphadenitis (TGL) following Bacillus Calmette-Guerins (BCG) vaccination at birth is a result of hypersensitivity reaction, or a hematogenous dissemination of BCG bacteria. Although Al-Hassan and Ahsanullah<sup>1</sup> did not address in their study the factors contributing to the clustering of cases of TGL, I presume that the following 2 points might help explain that clustering.

First, for many decades following introduction of BCG vaccine in the immunization program worldwide, BCG vaccine has proved to be generally safe in immunocompetent infants with low risk of complications, including TGL. The BCG vaccine is routinely given to neonates in settings where tuberculosis (TB) is endemic, irrespective of human immunodeficiency virus (HIV) exposure. The HIV-infected infants and other immunodeficient infants are at risk of BCG-related complications. The BCG vaccination should be delayed in every newborn with a family history of primary immunodeficiency until the condition has been ruled out.<sup>2,3</sup> I presume that the cases studied by Al-Hassan and Ahsanullah<sup>1</sup> might be immunodeficient, a possibility that seems justifiable to be ruled out by appropriate laboratory tests.

Second, it is well-known that BCG vaccine is produced by serially culturing BCG bacteria. It is, therefore, possible that the synthesized BCG vaccines are reactogenic in variable grades depending on the manufacturing strain. For instance, several African regions had experienced that the risk of outbreak of suppurative BCG lymphadenitis was low for vaccines with Glaxo and Japanese strains, but much higher for vaccines with Pasteur. This experience in the 1980's has led the expanded programme on immunization (EPI) to replace the Pasteur BCG vaccine with less reactogenic BCG, Japanese or Glaxo BCG to solve the outbreak of

suppurative adenitis complication.<sup>4</sup> Moreover, Japanese BCG vaccine which has been admitted by the quality control of the World Health Organization (WHO) as the safest BCG vaccine in the world, inevitably causes dissemination beyond vaccination site, and regional lymph nodes to various part of the body under certain special conditions.<sup>5</sup> I wonder which type of BCG vaccine has been incorporated in the national immunization program in Saudi Arabia. Currently, it is a common opinion that only the development of a new and more effective vaccine against TB would significantly ease this deadly disease on one hand, and greatly minimizes the potential risk of complications of BCG vaccine on the other hand. Looking for a new vaccine, or an improved TB vaccine is urgently needed. Such vaccines include new live and attenuated strains of *Mycobacterium tuberculosis*, improved recombinant BCG strains, subunit and DNA vaccines.<sup>6</sup>

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Reply from the Author

No reply was received from the Author.

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