

### **What is the Appropriate Time for BCG Vaccination in Preterm Infants?**

Tuberculosis, a major public health problem is an important cause of childhood morbidity and mortality in developing countries. BCG vaccination is recommended by World Health Organization for control of disease in countries with a high incidence of tuberculosis(1). This policy is routinely applied in preterm infants who may be at a greater risk of infection than term infants. That is why like term babies even preterm infants continue to get BCG vaccine within first few days of life. The efficacy of BCG vaccination and its protection against tuberculosis in the full term infant after birth has been shown by several studies<sup>(2)</sup>. This data cannot provide information on the effectiveness of BCG vaccination in preterm infants, furthermore preterm infants are also believed to be immunocompromised. It is of public health importance to find out whether preterm infants can be effectively and safely immunized with BCG vaccine as soon as possible after birth.

First study on effectiveness of BCG vaccine in preterm infants of more than 32 weeks gestation was carried out in Nigeria(3). A tuberculin conversion rate (induration  $\geq 5$  mm) of 83% was observed in

12 preterm infants after BCG vaccination at birth. Results of this study suggest that preterm infants born at 32-36 weeks gestation can be effectively immunized with BCG at birth. In contrast most recent study by Sedaghatian and Kardouni(4) on 101 preterm infants evaluated the efficacy of BCG vaccine by looking at following criteria: (i) The percentage of negative scars, and (ii) The percentage of tuberculin conversion.

In this study, 32% infants had no BCG scar and tuberculin conversion rate (induration  $\geq 5$  mm) was only 31% following BCG vaccination at birth. There was a significant difference for tuberculin conversion between infants with and without a BCG scar. A previous study in term infants(5) had a significantly higher number of BCG scars and tuberculin conversion. Results of above study seem to suggest that routine BCG vaccination at birth on preterm infants is not indicated.

The presence of BCG scar is often used as criterion to assess coverage of a vaccination programme but no correlation has been found between the size of scar and the size of the Mantoux reaction at all ages(6). Could the low grade tuberculin sensitivity be due to factors operating at the time of BCG vaccination?

The tuberculin sensitivity as reported by Sedaghatian and Kardouni(4) is considerably lower than other studies, but the absence of postvaccination tuberculin sensitivity does not exclude the presence of BCG induced immunity. Results of studies so far do not give us conclusive guidelines about the use of BCG vaccine in preterm infants. Hence, there is a need for a large

controlled study to settle the important issue.

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### Sprengel's Deformity

Sprengel's deformity is a rare congenital anomaly of the shoulder resulting from inadequate caudal movement of scapula during development(1). The disorder occurs almost always as a sporadic event even though a few familial cases with possible autosomal dominant inheritance have been reported. The deformity produces cosmetic and functional impairment. We report a case of unilateral Sprengel's deformity associated with thoracic and lumbar vertebral anomalies in a 3-year-old boy.

A 3-year-old boy was seen by us for abnormal position of neck. He was born to non-consanguineous couple and his birth and attainment of developmental milestones were normal. He weighed 11 kg and his height was 80 cm (both less than 5th percentile on NCHS charts). His neck was

short and extension and rotation movements were restricted. He held his head always flexed. Abduction at left shoulder was only of 120°. The left shoulder was at a higher level. Roentgenological examination revealed abnormally highly situated, hypoplastic left scapula (*Fig. 1*). Its superior angle was rotated towards the vertebral column. There were hemivertebrae at T<sub>1</sub> T<sub>3</sub>, L<sub>3</sub> and crowding of ribs on the left side.

Sprengel's deformity presumably results when there is interference with the descent of the scapula from the neck to the thorax(1). Normally, at about five weeks the fetal scapulae differentiate opposite sixth vertebrae. It undergoes caudal migration to its usual thoracic position between 9-12 weeks. The shape of scapula also undergoes change as the initial horizontal diameter which exceeds the vertical, starts decreasing until the mature dimensions are reached. In case of Sprengel's deformity, there is not only failure of caudal migra-