BCG (Bacillus Calmette-Guerin) Vaccination

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About BCG vaccination

BCG (Bacillus Calmette-Guérin) vaccine is a live vaccine that gives variable protection against Tuberculosis (TB) disease. BCG vaccination does not prevent TB infection but can reduce the chance of serious primary disease. In infants and young children in particular, it minimises the risk of death, meningitis, and disseminated TB. The benefit of BCG to adults is not as good as other strategies such as preventive therapy in those infected with TB.

The BCG vaccine can take 3 months to provide protection against TB disease, so BCG vaccine should ideally be given 3 months prior to travel to a high TB incidence country.

Assessment

In NSW, BCG vaccine is only recommended for:

- Children aged less than five (5) years who will have prolonged or frequent travel to a high TB incidence country.
- Newborn children of parents with Hansen’s disease (leprosy) or a family history of Hansen’s disease.

Precaution: In the circumstance where BCG is recommended for neonates, it should be deferred until they weigh at least 2.5kg or advice from a paediatrician with expertise in TB is obtained.

BCG vaccination may be considered for tuberculin skin test negative healthcare workers who are at high risk of exposure to drug-resistant TB, either in Australia or overseas, due to the difficulty in treating drug-resistant infection. A medical practitioner with expertise in TB must determine if any such request for BCG is appropriate.

A high TB incidence country is defined in the Australian Immunisation Handbook (10th Edition) as a country with an incidence rate of greater than 40 cases of active TB per 100 000 population per year. A list of countries with a high TB incidence can be found at the following web address:

Management

1. Children older than 6 months will need a tuberculin skin test (Mantoux test) prior to vaccination. People with a positive tuberculin skin test will not benefit from the vaccine and may develop a severe reaction at the vaccination site. The tuberculin skin test should be delayed until 4 weeks after any injected live vaccine (e.g. MMR).

2. BCG is a live vaccine and must be given on either the same day or 4 weeks before or after other injectable live vaccines, otherwise the immune repose may be sub-optimal. Injectable live vaccines include MMR, MMRV, varicella, zoster and yellow fever vaccines. Oral live vaccines (for example rotavirus vaccine) can be given within the 4-week period.

3. The usual BCG site reaction is a red papule which forms within 2 to 4 weeks then ulcerates and heals over the next 2 to 4 weeks, leaving a small scar. Keep the site aerated and dry throughout this process. Don’t apply occlusive dressings. Injection site abscess and lymphadenitis are uncommon complications.

Referral

In NSW BCG vaccine is only accessible from TB services. All patients requiring TST or BCG vaccination will need to be referred to their local TB service using the BCG request form on the NSW Health website:

Clinical resources

- NSW Health policy directive (PD2013_032): BCG (Bacillus Calmette-Guérin) Vaccination
- Australian Immunisation Handbook – Chapter 4.20 Tuberculosis. The handbook provides information about tuberculosis (TB), the BCG vaccine (transport, storage, handling, dosage and administration), vaccination recommendations, contraindications, precautions, adverse events, and use in pregnancy.