



The BCG vaccine is a vaccine to prevent tuberculosis

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Do you think that tuberculosis is a disease of the past?

Tuberculosis is an infectious disease that still generates about 15,000 patients a year in Japan. Most of the patients are elderly, but it is sometimes transmitted from adults to children. Furthermore, immunity against tuberculosis cannot be inherited from mother to child. Babies are not very resistant to tuberculosis and may suffer from systemic tuberculosis or tuberculous meningitis and may be left with severe sequelae.

What is BCG vaccine?

The BCG vaccine is a live vaccine that is made from attenuated *Mycobacterium bovis*. Inoculation is performed by pressing a multiple puncture device on two locations on the outside of the upper arm.



Routine BCG vaccination schedule

The BCG vaccine is given by the age of 1 year. The standard vaccination period is between the age of 5 and 7 months, but in some areas, it may be given earlier (after 3 months of age). In the event that a child is unable to get the vaccine during the aforementioned period, due to reasons such as getting a disease that requires long-term treatment, the child can be vaccinated during the 2-year period after becoming eligible to be vaccinated (but until reaching 4 years of age).



Post-vaccination precautions

Vaccination sites should be dried while avoiding direct sunlight. The child may take a bath on the day of vaccination but avoid rubbing or scratching the vaccination sites.

Post-vaccination progress

At around 10 days after the vaccination, red papular may appear at the vaccination sites, and small pus may partially appear thereafter. This reaction peaks around 4 to 6 weeks after the vaccination, and a scab will form and heal by around 3 to 4 months after the vaccination, and only a small scar will remain. This is a normal reaction and is evidence that immunity is acquired through the BCG vaccination. Do not apply bandages or plaster strips to such skin conditions but simply keep it clean.

General post-vaccination progress



Adverse reactions

The vaccination sites may still ooze even after 3 months or later of vaccination, or may start oozing again even after the sites have once dried. Furthermore, in rare cases, the lymph node under the armpit on the same side where the BCG vaccine was given may swell. Generally, all it takes is to simply observe the progress, but the swollen sites may become large, suppurated, spontaneously burst, and ooze pus. If the child experiences any of these symptoms or if you notice any changes in the condition, please consult your doctor.

The Koch's phenomenon



If a post-vaccination reaction appears sooner than expected

When the BCG vaccine is given to babies who are already infected with tuberculosis, the vaccination sites sometimes exhibit stronger reactions much sooner (1 to 5 days after vaccination) than usual. This is called the Koch's phenomenon.

If you suspect an onset of the Koch's phenomenon:

- 1 If you notice these changes, make sure to visit the doctor who gave the vaccination within 2 to 3 days.

An onset of the Koch's phenomenon may mean that the child may have been infected with tuberculosis without knowing. Your child should be investigated whether he/she is really infected with tuberculosis or not. If your child was part of a group vaccination or if you cannot communicate with your primary physician, please contact the vaccination department of your municipality. Please note that it is not as urgent as needing to visit an emergency outpatient clinic.

Please also do not panic since the tuberculosis infection rate among children has been very low in Japan in recent years, and in many cases, it is found afterwards that the child is not infected with tuberculosis.

- 2 Swelling will subside 2 to 4 weeks after vaccination

Even if the skin at the vaccination site becomes red, swollen, or starts producing pus, it only requires applying a gauze. In 2 to 4 months after the vaccination, the skin will heal to the point of only the scars showing.

Examples of the Koch's phenomenon



It usually entails rapid changes (inflammation, suppurated, etc.) that occur within 3 days after vaccination. Usually the condition heals faster than normal.