



Questions on Immunization and Vaccination and Short Answers

Bağışıklama ve Aşı ile İlgili Sorular ve Kısa Cevaplar

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Question 1: An infant aged 11 months and 10 days, who has not been previously vaccinated against measles, was found to be in contact with a case presenting maculopapular rash and fever in contact with a case of maculopapular rash and fever on the second day of the rash onset. An examination of the case the infant was in contact with was positive for measles IgM antibody.

Question 1A: How should this infant receive post-exposure measles prophylaxis?

All those aged 6 months and older who have been in contact with a suspected and/or confirmed measles case and who cannot provide documented two doses measles containin vaccine (MCV) and/or who have not had the disease should receive one dose of measles-containing vaccine prophylaxis within the first 72 hours of exposure (vaccines administered before 12 months of age are not considered a valid dose).

Unless the immune system is suppressed, contacts who have received at least one dose of measles vaccine at 12 months of age or later will receive a second dose of measles-containing vaccine as soon as possible (provided that a minimum interval of 4 weeks between the previous dose). IVIG administration is not necessary.

Severely immunocompromised patients exposed to measles should receive IVIG regardless of immunity or

vaccination status (even if they have received two doses of measles-containing vaccine).

Question 1B: How would post-exposure measles prophylaxis be administered if this infant was 12 months and 15 days old and had received one dose of measles, rubella, mumps (MMR) vaccine at 12 months?

A fever of 38° C and above has been reported in 5-15% of children following vaccination, and a rash 5-12 days following vaccination in 3-5%. These are expected adverse effects of MMR vaccine and do not require special precautions. In this given information, this possibility should be kept in mind when a rash develops in this infant.

However, since this contacted case is also epidemiologically linked to a lab-confirmed case, he/she should be isolated at home for the longest incubation period for measles which is 21 days, and be followed-up clinically monitored for measles. All susceptible contacts (household members and dother direct contacts) and other susceptible persons with a history of direct contact should also be given post-exposure prophylaxis.

Natural measles infection and an adverse effect following vaccination cannot be distinguished serologically. It should be kept in mind that vaccination also elicits an IgM response. Therefore, only the demonstration of the virus in a throat swab or urine sample by PCR and genetic typing (genotyping)

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can distinguish between natural infection and the rash that develops following vaccination. If “strain A” is detected after genotyping, this case is as a measles vaccine-associated rash illness.

In case of a suspected case both epi-linked to a confirmed case and recently vaccinated for measles, the case should be treated as a measles case until the virus is genotyped.

Question 1C: If this was a 13-month-old infant who had received one dose of MMR vaccine at 12 months, how would post-exposure measles prophylaxis be performed?

All persons aged 6 months and older who have been in contact with a suspected and/or confirmed measles case and without a documented two doses of vaccination and/or who have not had the disease should receive one dose of measles-containing vaccine prophylaxis within the first 72 hours of exposure.

Accordingly, this infant should receive another dose of measles containing vaccine. Since it can be documented that this infant has received the first dose of measles-containing vaccine, MMR vaccine should preferably be administered within the first 72 hours (even if this time has elapsed).

Children who have received two doses of MMR vaccine are considered as fully vaccinated, provided that the first dose was administered at 12 months of age or later. Therefore, since the condition of at least four weeks between the first dose and the post-exposure prophylaxis dose administered to this child at 13 months of age was met, there was no need to administer MMR vaccine to this child at 48 months.

Question 1D: What age is the earliest age at which measles-containing vaccine can be administered?

Measles-containing vaccine can be administered as early as 6 months of age when there is a high risk of exposure (e.g. in post-exposure measles prophylaxis, during outbreaks, before traveling to measles endemic areas, etc.). However, since this dose is administered before 12 months of age, it is not accepted as a valid vaccine dose since the desired vaccine response cannot be obtained.

Question 1E: If this infant was under 6 months of age, how would post-exposure measles prophylaxis be administered?

In cases where vaccination is not feasible (infants under 6 months of age whose mothers are unvaccinated or have seronegative for measles, pregnant women who have not received two previous doses of documented measles vaccination or who are known to have negative measles serology, and other situations where vaccination is contraindicated), intravenous immunoglobulin (IVIG) is administered to persons who have been in contact with a measles case within the first 5 days following exposure. Home isolation for 28 days after IVIG is recommended, as IVIG may extend the incubation period.

Children under 6 months of age in case of contact with a case of measles;

-If the infant is a term baby (36 weeks and over) and the mother is measles IgG positive, IVIG is not necessary.

-If the infant is a term baby and the mother is IgG negative, IVIG is administered and the mother is vaccinated.

-IVIG is administered if the baby is pre-term.

The recommended dose of IVIG is 400 mg/kg.

According to the European Medicines Agency, IVIG products must contain a certain level of measles antibody.

MMR vaccine and IVIG should not be administered simultaneously.

Question 1F: What should be the approach for people who are too late for post-exposure prophylaxis?

- The contact person should be isolated at home in a separate room for 21 days, the longest incubation period.
- All entries and exits the room should be restricted.
- Household susceptible for measles (unvaccinated or without a history of measles) should be vaccinated with measles vaccine within the first 72 hours of exposure, unless there are contraindications. The second dose of measles vaccine should be administered to these individuals no earlier than 4 weeks after the first dose.
- Persons responsible for the care of the contacted case should be vaccinated and wear a mask.
- Only contact-specific care materials should be used.
- Children in the household attending school/nursery etc. should not be sent to school until the diagnosis of measles has been ruled out (preferably for 21 days, the longest incubation period).

In the event that the contacted case develops symptoms of measles disease; in cases that do not require hospitalization, cases should continue to be isolated at home in a separate room for 5 days following the rash onset, preventing other people from visiting the house, limiting entry and exit from the room. Individuals in the household who are missing measles vaccine or who have never had measles (as diagnosed by a registered doctor or serologically confirmed) and other measles-susceptible persons who have direct contact with the patient should be vaccinated with measles-containing vaccine within the first 72 hours of exposure (unless there are contraindications). They should receive a second dose of measles containing vaccine no earlier than 4 weeks after the first dose. Caregivers should be fully vaccinated and wear a mask. Only patient-specific care items should be used. Children in the household attending school/nursery etc. should not be sent to school until the diagnosis of measles has been ruled out (preferably for a maximum incubation period of 21 days).

Vitamin A supplementation is recommended for measles cases by the World Health Organization and the National Measles Verification Committee of the Turkish Ministry of Health.

This application;

-50.000 units/day (two days) for infants aged 6-12 months,
-100.000 units/day (two days) for children aged 12-24 months,

-Children over 24 months are recommended 200.000 units/day.

Question 2: What should be the post-exposure prophylaxis in severely immunocompromised children exposed to measles?

Severely immunocompromised patients exposed to measles should receive IVIG regardless of immunity or vaccination status. For those already receiving IVIG, IVIG given at a dose of 400 mg/kg within three weeks prior to measles exposure is sufficient for prophylaxis.

Risk Groups for Measles-Mumps-Rubella-Mumps (MMR) Vaccination Due to Disease*

a. Regardless of vaccination status, hematopoietic stem cell recipients are administered two doses at three-month intervals at least 24 months after stem cell transplantation if they do not have graft versus host disease and are not using immunosuppressive drugs.

b. HIV/AIDS patients should receive MMR vaccine. The CD4 count is assessed before the vaccine can be administered.

CD4 count > 200 in children and adults aged seven years and older,

In children under seven years of age, a CD4 count of $\geq 15\%$ is required for the vaccine to be administered, as there may be numerical differences.

Regardless of vaccination status, two doses should be administered at least four weeks apart in adults and an additional dose in children.

c. If persons scheduled for solid organ transplantation are under-vaccinated or seronegative, the last dose of vaccine is administered at least four weeks before transplantation and completed in two doses (If the transplant recipient is younger than 12 months, MMR vaccine can be administered earlier and after the 6. month).

**It must be administered in consultation with the following clinical specialist.*

Question 3: How is vaccination performed in people who have had measles?

A person who has had measles is protected against measles; however, to be protected against rubella and mumps (if no previous history of rubella or mumps is recorded), the measles-mumps-mumps (MMR) vaccine is recommended to be administered no earlier than 4 weeks after the disease. The MMR vaccine should be administered even if the person is susceptible to either rubella or mumps.

There are no adverse effects when a person is vaccinated against measles even if they have had the disease before.

Two doses of measles-containing vaccine should be administered at appropriate intervals (at least four weeks apart) unless there is a health authority record that the person has had measles or is immune to measles.

It is not recommended that people (including adults) undergo routine laboratory testing to determine whether they have measles prior to measles-containing vaccine administration.

Unvaccinated and under-vaccinated persons should complete the age-appropriate schedule. For people who have received a single dose of vaccine provided that it was administered in accordance with their age (12 months and later), the length of time that has elapsed since the first dose is not important; the second dose of vaccine is administered by continuing the scheme from where it was left off.

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