



Questions on Immunization and Vaccination and Short Answers

Bağıışıklama ve Aşı ile İlgili Sorular ve Kısa Cevaplar

Pervin Özelçi¹(iD), Aslıhan Coşkun¹(iD), Ateş Kara^{1,2}(iD)

¹ Presidency of the Health Institutes of Turkey, Turkish Vaccine Institute, Aziz Sançar Research Center, Ankara, Türkiye

² Division of Pediatric Infectious Diseases, Department of Pediatrics, Hacettepe University Faculty of Medicine, Ankara, Türkiye

Cite this article as: Özelçi P, Coşkun A, Kara A. Questions on immunization and vaccination and short answers. J Pediatr Inf 2023;17(1):e63-e64.

Question 1: In pertussis-containing vaccines, what are the conditions that cause absolute contraindications for the pertussis component?

There are two main contraindications for pertussis vaccine.

This applies to both whole-cell vaccines and acellular pertussis vaccines. As with other vaccines, a history of a severe allergic reaction (anaphylaxis) to a vaccine component or following a previous dose is a contraindication for subsequent doses.

The second contraindicated situation is acute encephalopathy that occurs within seven days following the administration of vaccines such as DBT, DaBT or Tdap, which have a pertussis component, without any other explainable cause.

Question 2: In pertussis-containing vaccines, what are the conditions that requires taking precautions or delay the pertussis vaccine due to the pertussis component?

Undiagnosed progressive or unstable neurological diseases, disorders, uncontrolled convulsions or progressive encephalopathy are among the conditions for which precautions should be taken during DaBT and Tdap vaccine applications.

Vaccination of people with known or suspected neurological conditions should be delayed until their condition is evaluated and treatment is initiated and their condition stabilizes. These situations include the presence of a progressive neurological condition (uncontrolled epilepsy, infantile spasm, progressive encephalopathy), a history of unevaluated convulsions or a neurological event occurring between vaccine doses.

In addition, administration of the pertussis component vaccine may be delayed in children with moderate or severe acute illness with or without fever, and these children can be vaccinated as soon as they recover.

Perhaps one of the important points to be noted is that although it is known that it is much rarer than all cell vaccines, fever of 40.5°C or higher that is unexplained and occurs within 48 hours of pertussis vaccination, hypotonic-hyporesponsive attack that occurs within 48 hours, convulsions with or without fever that occur within three days are considered as situations for which precautions should be taken. These are not conditions that are contraindicated for pertussis vaccine. The decision to continue pertussis vaccination should be made by evaluating individual benefit and risk. The risks will be less

Correspondence Address / Yazışma Adresi

Ateş Kara

Hacettepe Üniversitesi Tıp Fakültesi,
Çocuk Sağlığı ve Hastalıkları Anabilim Dalı,
Çocuk Enfeksiyon Hastalıkları Bilim Dalı,
Ankara-Türkiye

E-mail: ateskara@hacettepe.edu.tr

Received: 05.02.2023

Accepted: 19.02.2023

Available Online Date: 31.03.2023

©Copyright 2022 by Pediatric Infectious Diseases and Immunization Society.
Available online at www.cocukenfeksiyon.org

if the acellular pertussis vaccine is administered instead of the whole-cell pertussis vaccine.

Since the pertussis vaccine has been put into clinical use in combination with diphtheria and tetanus toxoid in general, it would be appropriate to draw attention to the following tables regarding these vaccine components.

Guillain-Barré syndrome, which occurs within six weeks after the previous dose of the tetanus-containing vaccine, is among the conditions to be taken for the administration of DaBT, Tdap, DT and Td vaccines.

A history of Arthus-type hypersensitivity after a previous dose of diphtheria toxoid or tetanus toxoid-containing vaccine is a precaution for DTaP, Tdap, DT, and Td vaccination, and vaccination should be delayed until at least 10 years have passed since the last tetanus-toxoid-containing vaccine.

Question 3: Does immunosuppression create a contraindication for pertussis vaccine?

The short answer is no. The pertussis vaccine is an inactivated vaccine. While whole-cell pertussis vaccines contain the whole microorganism, acellular pertussis vaccine has two or three specific antigenic structures of pertussis.

DBT or DaBT vaccines can be administered to children who are immunocompromised or receiving immunosuppressive therapy. However, vaccine response cannot be certain. If immunosuppressive therapy is to be terminated in a short time, delaying post-treatment vaccination for up to one month may provide a better immune response.

References

1. *The Pink Book: Course Textbook-14th Edition (2021)* Erişim adresi: <https://www.cdc.gov/vaccines/pubs/pinkbook/index.html>
2. Plotkin Stanley A, Orenstein Walter A, Offit Paul A, Edwards Kathryn M. *Plotkin's Vaccines, Seventh Edition, 2018.*