Cardiovascular disease and yellow fever

Doença cardiovascular e febre amarela

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All of us cardiologists have been asked about vaccination against yellow fever during consultations, as well as in phone calls or messages from patients or family members. The reason is that the outbreak of the disease has appeared on the news daily causing the whole country to worry.

Even in the absence of a consensus on universal vaccination, the current epidemiological situation requires the intensification of measures in the short term due to the risk of triggering a catastrophic urban epidemic with high morbidity and mortality.

One of the most difficult decisions involving medical liability is in the recommendation for patients over the age of 60 years, when there is a higher incidence of adverse events that, although rare, can be serious and fatal.

These complications have been reported in studies with the non-fractional vaccine on a regular basis and we do not know if they would be even rarer with the fractional vaccine that is now being used.

It must be understood that this situation is dynamic, like any epidemic or pandemic outbreak, and there is a permanent need for reassessment, clarification and guidance. Thus, public health authorities and medical societies have advised that patients over 60 years should consult their professional for advice, which requires careful evaluation of the epidemiological risk. It is physician's responsibility to define the protection of this age group in the population. If they are not vaccinated and become infected, they can rapidly progress to severe forms that will increase the complications of any underlying conditions. The decision involves comparing the risk of developing complications, estimated for the elderly (with the entire vaccine) at 1 per 100,000 (60 to 70 years-old) or 1 per 30,000 (> 70 years-old) versus 1-2 per 1 million in non-elderly individuals.

Therefore, the Ministry of Health published a generic guide:

Ministry of Health – Guide to vaccination criteria against yellow fever

Precautions

Thorough and individualized risk and benefit assessment for vaccine recommendation is required as follows:

- Acute moderate or severe febrile conditions.
- First yellow fever vaccination in people aged 60 and over.
- Blood or organ donors.
- HIV-infected individuals, asymptomatic and with moderate immunosuppression according to CD4 count.
- People with potentially autoimmune diseases.
- People with hematological diseases.
- Patients who have developed demyelinating neurological disease within 6 weeks after the previous dose of the vaccine.
- Pregnant and breastfeeding women.

Contraindications

- Children under 6 months of age.
- Individuals with a history of severe adverse events with previous doses.
- Those with a history of laboratory-proven anaphylaxis with previous doses or anaphylaxis related to the substances present in the vaccine (chicken egg and its derivatives, bovine gelatine or others).
- Patients with severe immunosuppression of any nature.
- Patients undergoing organ transplantation.
- Patients with previous history of thymus disease.
- Patients with systemic lupus erythematosus.

However, some special situations in cardiological patients can cause doubt.

We list some of them below, which can make it easier for us to guide patients:

1. I am over 60 years and am going to travel to an area with a high incidence of yellow fever; should I be vaccinated?
If you are over 60 years old, but do not meet the contraindication criteria, vaccination is recommended, even if you have a chronic disease such as heart failure (HF), diabetes mellitus (DM) or coronary artery disease (CAD). If you have any of the contraindications, you should not travel or, if it is unavoidable, use insect repellent and avoid exposing yourself.

2. I am over 60 years, I live in an urban area with a low incidence of the disease and I will not travel to any endemic area, should I be vaccinated?
In this case, the risk of vaccination is greater than the benefit.

3. Can a patient aged less than 60 years but with a chronic disease (such as HF, DM or CAD) be vaccinated?
Yes, and should be. The simple presence of chronic disease does not contraindicate vaccination.

4. My patient is young and has a complex congenital heart disease. Can he be vaccinated?
Yes, he can. Patients with congenital heart diseases, even complex ones, and aged over 6 months can be vaccinated.

5. My patient has valvulopathy with a history of rheumatic fever (which is ultimately an autoimmune disease) but has not had activity. Should he be vaccinated?
There is nothing specific for rheumatic fever and all patients with controlled autoimmune diseases, in the absence of immunosuppression, may theoretically receive the vaccine except for lupus, which is a contraindication. In this case, there are still controversies.

6. Does vaccination against yellow fever cause myocarditis?
Yellow fever virus infection is one of the causes of myocarditis; post-vaccinal myocarditis alone is possible but extremely rare.

7. My patient had myocarditis with no defined etiology. Can he be vaccinated?
Yes, he can. Vaccination is not contraindicated, whether the ventricular function has been recovered or not.

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