

Nickel Allergic Reaction Post ASD Device Closure

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Introduction: The use of nitinol-containing devices can pre-dispose to nickel allergy. In 2009, a survey of CCISC determined the approach of interventional cardiologists to nickel allergy. Only 44% of responders routinely inquired about nickel allergy and performed skin testing prior to device closure. Reaction occurred from 2 days up to 1 month after implantation and manifested as headaches, rash/urticaria, dyspnea, fever or pericardial effusion. All patients responded to medical management and in rare instances the devices need to be explanted.

Methods: We report on 11 years old boy with dyspnea who diagnosed by TTE and TEE to have large secundum ASD measuring 29x27 mm with left to right shunt and insufficient flimsy posterior, superior and IVC rims. The right side showed dilatation (RVEDD=3.5cm) with normal PAP. The patient underwent successful transcatheter device closure in Tanta University catheterization laboratory using 34 mm Hyperion™ ASD Occluder (Comed) with no residual shunt or impingement over any of the cardiac structures. The patient was discharged on the same day on his previous medications (Spironolactone and ACEI) and on aspirin 3mg/kg/day oral and safely followed after one week.

Result:

Ten days later, the patient complained of fever, severe allergic and pruritic reactions on his face, trunk and genital area. Echocardiography revealed no residual shunt or any complications. Aerobic and anaerobic blood cultures were negative and infective endocarditis was excluded.

After exclusion of infective endocarditis and drug reaction, there was a great concern of an allergy to the device itself. Cutaneous testing using 25 mm AMPLATZER™ PFO occluder was applied to the patient and showed positive results. Intravenous high dose dexamethasone was started immediately and tapered gradually over 5 days. Aspirin was replaced by clopidogrel by the same dose. Fortunately, two days later symptoms and signs started resolving gradually. The patient was discharged with safe and free 6 months follow up course.

Conclusion: Nickel allergy should be taken into account in patients considering an ASD device. Confirming a nickel allergy pre-procedure with patch testing or with the device itself is very useful procedure.

