

# Right to Left Shunt in Agitated Saline Test

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## Video 1

## Video 2

An 11-year-old girl was presented to the cardiology clinic with a history of atypical chest pain and nonspecific shortness of breath. The patient underwent echocardiography that revealed interatrial septum redundancy with signs of shunt flow in the color-doppler study (Video 1). The differential diagnosis included atrial septal aneurysm (ASA) associated with patent foramen oval (PFO) and atrial septal defect (ASD). Agitated saline test was performed via left cubital vein (Video 3) and significant leakage of contrast through interatrial septum was confirmed (Video 2). For further evaluation, the patient underwent the transesophageal echocardiography (TEE) to rule out the ASD. No left to right shunt was seen in TEE and the color-doppler study showed right to left shunt, hence the diagnosis of ASD was ruled out (video 4). The final diagnosis was PFO. PFO is a congenital cardiac abnormality as a fetal blood communication tunnel between two atria (right to left) is remained open after one year of age. It has a high prevalence of about 25% in the general population. No intervention and follow up is needed; except for those who have large-sized PFO with significant right to left shunt and a history of neurological event especially in younger ages without other risk factors for atherosclerosis [1].

## REFERENCES

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## KEYWORDS

Cardiology, Echocardiography, Interatrial Septum, Patent Foramen Ovale, Atrial Septal Defect, Transesophageal Echocardiography

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