Transthoracic echocardiography in the diagnosis of type A dissecting aortic aneurysm

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Introduction: Aortic dissection (AD) is defined as disruption of the medial layer provoked by intramural bleeding, resulting in separation of the aortic wall layers and subsequent formation of a true lumen and a false lumen with or without communication. It occurs at an estimated rate of 3 per 100,000 people every year, among them 40% die immediately and do not reach a hospital in time. Magnetic resonance imaging is currently the gold standard for the detection and assessment of AD, with a sensitivity and a specificity of 98%, however it has limited availability. Transthoracic echocardiography (TTE) is more commonly available diagnostic tool and has sensitivity of up to 98% and a specificity of up to 97%.¹⁻³ **Aim:** To highlight the importance of TTE in the diagnosis of type A dissecting aortic aneurysm.

Case 1: 67-year-old male was admitted to Internal department due to chest pain and dyspnea. Physical examination showed unmeasurable arterial blood pressure on the right arm and 140/100mmHg on the left; diastolic murmur over precordium. ECG: downsloping ST segment depression in V4-6. Troponin T test was positive. TTE revealed dilated ascending aorta (56 mm) with signs of acute dissection: prolapse of intimal flap into the LVOT and severe AR +4 (Figure 1). CT angiography confirmed aneurysm of the ascending aorta starting from the root of LCA and was tracked over the entire aorta to the AIC. Bentall procedure was performed.

Case 2: 50-year-old male was presented to the internist due to occasional chest pain and shortness of breath, appeared 3 months earlier. Physical examination revealed hypertension, diastolic murmur over precordium. TTE: dilated ascending aorta (48 mm), structure above projection of non-coronary aortic cusp, at the level of sinotubular junction, reminiscent of the intimal flap; severe MR +4 and AR +3/4 (Figure 2). CT angiography visualized the hypodensic linear area that separates lumen of thoracic aorta into two parts and extends to the bases of brachiocephalic trunk. Patient received surgical treatment.

On regular follow-up, 5 years after the procedures both patients feel great.

Conclusion: Echocardiography has become the preferred imaging modality for suspected aortic dissection. Prompt diagnosis and access to surgical therapy increases survival.

A transthoracic echocardiogram revealed dilated ascending aorta (56 mm) with signs of acute dissection: prolapse of intimal flap into the left ventricular outflow tract.

FIGURE 1.

A transthoracic echocardiogram: dilated ascending aorta (48 mm), structure above projection of non-coronary aortic cusp, at the level of sinotubular junction, reminiscent of the intimal flap.

FIGURE 2.

LITERATURE

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