Acute ischemia as a complication by transoesophageal echocardiography

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Abstract

Transoesophageal echocardiography (TEE) is a safe procedure with a low complication rate. We present a patient with severe coronary artery stenosis or disease who developed acute coronary ischemia of the anterior wall as a complication of TEE procedure. The possible mechanism can be stress during the procedure.

Keywords

Transoesophageal echocardiography (TEE); Complications; Acute coronary ischemia

A 73-year-old patient with hypertension, diabetes mellitus and history of coronary artery disease (CAD) angina pectoris grade II. CCS, refused aorto-coronary bypass surgery in 2001. He was treated medically with betablocker (atenolol 20 mg), ACE inhibitor (enalapril 10 mg), nitrate (isosorbit mononitrate 40 mg), molsidomin 2 mg and aspirin 200 mg. His lipid spectrum was normal.

He was recently admitted to the neurological department for repeated (3 times in 2 days) transient ischemic attacks (TIA) lasting 20 min on average. The admission ECG is shown in Fig. 1. CT examination excluded brain haemorrhage and the patient was referred for transoesophageal echocardiography (TEE) examination to exclude an intracardiac or aortic source of embolism.

TEE was performed under local anesthesia and without premedication. Conclusion: spontaneous echocontrast in the left atrium and low atrial appendage emptying velocity. Blood pressure during the procedure was 140/80 mmHg, heart rate 70–90 bpm. Oxygen saturation was not measured.

During TEE examination, the patient experienced a chest pain, suspicious of coronary origin.
Sublingual nitrate was administered without effect. TEE procedure was ended and an ECG was recorded. There was ischemia of anterior wall (Fig. 2). After another dose of nitrate chest pain disappeared and the ECG normalised (Fig. 3). There was no wall motion abnormality on the echocardiography during the myocardial ischemia. Troponin T was negative and medical therapy was corrected. The patient was asymptomatic and again he refused further investigation and invasive treatment of CAD.

Discussion

TEE examination has a low complication rate. There was 0.2% morbidity and 0% mortality documented in an extensive study group of 7200 patients investigated by intraoperative TEE. Most frequent complications are: severe odynophagia (0.1%), dental injury (0.03%), upper gastrointestinal haemorrhage (0.03%), and oesophageal perforation (0.01%). Rarely a splenic injury or recurrent
laryngeal nerve damage can occur.4 TEE is safe even in obese patients.5

In our patient with severe coronary artery disease, myocardial ischemia on the ECG was clearly a complication of TEE. Oxygen saturation during the TEE procedure should be monitored to prevent myocardial ischemia in patients with known diagnosis of CAD. Routine sedation in every patient with CAD and TEE examination seems unnecessary.6

References


