

## CLINICAL VIGNETTE

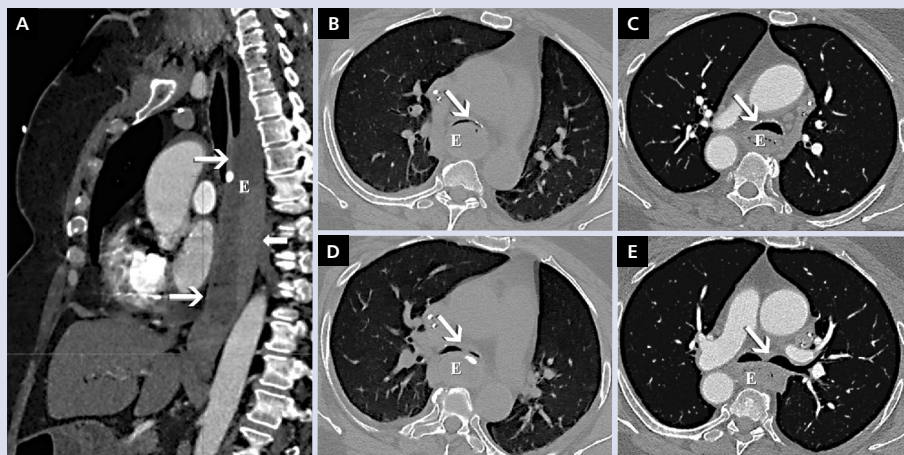
# Iatrogenic transmural oesophageal haematoma after a MitraClip procedure

Jerzy Pręgowski<sup>1</sup>, Jarosław Skowroński<sup>1</sup>, Zbigniew Chmielak<sup>1</sup>, Piotr Szymański<sup>2</sup>, Adam Witkowski<sup>1</sup>

<sup>1</sup>Department of Interventional Cardiology and Angiology, Institute of Cardiology, Warsaw, Poland

<sup>2</sup>Department of Acquired Cardiac Defects, Institute of Cardiology, Warsaw, Poland

Transoesophageal echocardiography (TEE) is a crucial imaging modality guiding numerous structural heart interventions. TEE is a safe procedure with low incidence of complications. Iatrogenic probe-related injuries mostly include harmless epithelial laceration and sore throat. However, life-threatening complications, such as oesophageal perforation, may also occur. In the current paper we describe a rare case of TEE-induced large oesophageal haematoma compressing the trachea and main bronchi. A 61-year-old woman, not eligible for cardiac surgery, was admitted to our institution for a scheduled MitraClip procedure. She suffered from symptomatic heart failure (New York Heart Association class III) with reduced left ventricular ejection fraction (30%). The patient's comorbidities included stable coronary artery disease treated with percutaneous coronary intervention one year previously, history of myocardial infarction, obesity (body mass index of 38 kg/m<sup>2</sup>), and metabolic syndrome. A year earlier she was implanted with a cardioverter defibrillator. TEE done during the referral for the MitraClip procedure showed severe central mitral regurgitation (MR) with a small cleft in the P2 segment. The MitraClip procedure was performed in a standard manner under general anaesthesia and with TEE guidance. The immediate outcome following implantation of two clips was satisfactory, as demonstrated by the reduction of MR severity from severe to mild. The good result was confirmed by postprocedural transthoracic echocardiography, visualising two MitraClip devices in a proper position, a reduction of MR from severe to less than moderate, and borderline mitral gradient of 13.5/5.5 mmHg. However, in the postoperative care unit the patient developed a refractory cough with audible stridor. Chest computed tomography examination showed an enlarged oesophagus (up to 38 × 32 mm), without any signs of bleeding or perforation but with a radiologic suggestion of haematoma within the oesophageal wall (Fig. 1A). Moreover, the enlarged oesophagus was compressing the trachea and ostia of both main bronchi (Fig. 1B, C). Bronchoscopy was performed and revealed compression of the tracheal wall by oesophageal haematoma at the level of the bronchial carina, a flattened trachea, a narrowed, fissure-shaped ostium of the left main bronchus, and the right main bronchus narrowed to 50%. A sample of mucopurulent secretion found in the left main bronchus was taken for further examination. Positive bacterial culture of enlarged spectrum  $\beta$ -lactamase-positive *Klebsiella pneumoniae* and clinical signs of infection were indications for meropenem treatment, which proved to be effective. The patient was closely monitored for two weeks in the intensive care unit. The oesophageal haematoma was treated conservatively. A control chest tomography was done, which confirmed a reduction of the haematoma dimensions and resolution of the tracheal and bronchial compression (Fig. 1D, E). The patient was discharged home and has remained clinically stable for the last three years.



**Figure 1.** Computed tomography of the chest; **A.** Axial reconstruction illustrating the oesophageal transmural haematoma, scan on the day of the MitraClip procedure; **B.** Horizontal reconstruction illustrating tracheal compression, scan on the day of the MitraClip procedure; **C.** Horizontal reconstruction illustrating bronchial compression, scan on the day of the MitraClip procedure; **D.** Horizontal reconstruction illustrating tracheal compression, seven days after the procedure; **E.** Horizontal reconstruction illustrating bronchial compression, seven days after the procedure; on each figure the arrow indicates the transmural oesophageal haematoma, and 'E' indicates the oesophagus

**Address for correspondence:**

Jarosław Skowroński, MD, Department of Interventional Cardiology and Angiology, Institute of Cardiology, ul. Alpejska 42, 04–628 Warszawa, Poland, tel: +48 22 343 41 27, fax: +48 22 613 38 19, e-mail: jskowronski@ikard.pl

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