

From heart to lung cancer

Od serca do nowotworu płuc

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A 73-year-old woman was referred to a cardiology unit for coronary angiography due to exertional dyspnea of increasing severity for two months. At 66 years of age, the patient suffered an inferior wall ST elevation myocardial infarction treated with primary percutaneous coronary intervention involving bare metal stent (BMS) implantation to the right coronary artery (RCA). A year later, elective coronary angiography was performed due to exertional dyspnea, and the patient had another BMS implanted to the RCA due to a de novo lesion. Medical history also included treatment for hypertension and mixed hyperlipidaemia. Chest radiograph on admission showed irregular consolidations in lower lung fields, bilateral trace pleural effusion, and widened right upper mediastinum (Fig. 1). Routine transthoracic echocardiography with lower image quality showed a nodular thickening within the interatrial septum, which was considered a possible normal variant (Fig. 2). Left ventricular systolic function was normal, with the ejection fraction of 0.6, and no significant valvular heart disease was identified. Transesophageal echocardiography was ordered and revealed left atrial wall infiltration with tumour-like structures at the interatrial septum, left atrial roof including its lateral aspect, and in the coronary sulcus at the mitral annulus, extending from the left atrium to the aortic wall. Hypoechoic foci were seen within the observed lesions (Fig. 3). Due to a suspicion of malignancy, chest computed tomography was performed and revealed an extensive 13.7 × 2.3 × 16.5-cm pathological mass in the upper mediastinum, with the mean radiodensity of 36 Hounsfield units (HU), increasing to 50 HU after contrast enhancement, continuous with the ascending aortic wall, aortic arch, and the initial portion of the descending aorta, and also involving the pulmonary trunk and both pulmonary arteries. In addition, lesions of similar morphology were identified at close proximity to the left atrium and in the left lung, sized 3.7 × 2.8 × 4.3 cm and 2.1 × 1.6 × 2.6 cm, respectively (Fig. 4). Abdominal ultrasonography revealed lesions consistent with probable metastases to the right hepatic lobe. The patient was transferred with suspected lung malignancy to a pneumology unit where small-cell anaplastic lung cancer was diagnosed based on thin-needle aspiration biopsy. Following oncology consultation, the patient was referred for radiotherapy with a view to possible second-step chemotherapy. An echocardiographic perspective can be useful not only in diagnosis of heart disease.



Figure 1. Chest radiography, posterior-anterior view, showing moderate widening of the right upper mediastinum (arrow)



Figure 3. Transoesophageal echocardiography (longitudinal view) revealed a mass infiltrating the interatrial septum and the left atrial roof (arrows)

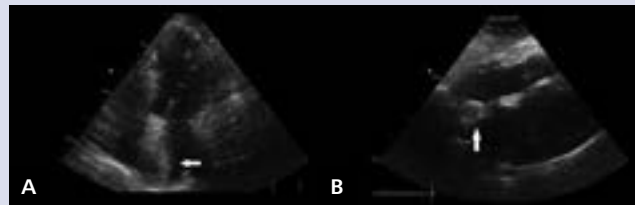


Figure 2. Transthoracic echocardiography revealed abnormal thickening of the interatrial septum (arrows); **A.** Modified four-chamber view; **B.** Substernal view

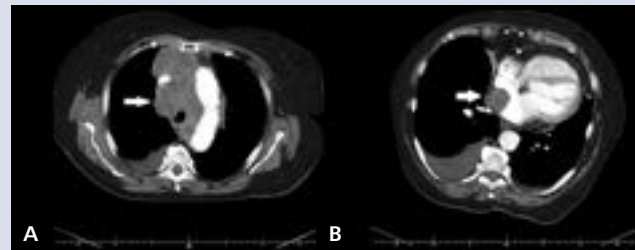


Figure 4. Computed tomography revealed an extensive mass in the upper mediastinum (**A**), with another mass seen at close proximity to the left atrium (**B**)

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Conflict of interest: none declared

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