

Primary mediastinal liposarcoma and perioperative incidentalome

Primárny liposarkóm mediastína ako peroperačný nález

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Abstract. Primary mediastinal liposarcomas, especially in the anterior mediastinum, are extremely rare. Patients usually present with dyspnea or tachypnea and chest pain. These symptoms can imitate ischemic heart disease. We present a case of an 81-year-old male with perioperative incidental finding of this tumor. Fig. 2, Ref. 8, on-line full text (Free, PDF) www.cardiologyletters.sk

Key words: primary mediastinal liposarcoma – anterior mediastinum – incidentalome – coronary artery bypass grafting – surgical resection

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Abstrakt. Primárne mediastinálne liposarkómy, osobitne uložené v prednom mediastíne, sú extrémne vzácne. Typické prejavy zahŕňajú dyspnoe, tachypnoe a bolesti na hrudníku. Tieto prejavy môžu imitovať príznaky ischemickej choroby srdca. V tejto kazuistike prezentujeme 81-ročného muža s náhodným peroperačným nálezom tohto tumoru počas koronárnej revaskularizácie. Obr. 2, Lit. 8, on-line full text (Free, PDF) www.cardiologyletters.sk

Kľúčové slová: primárny liposarkóm mediastína – predné mediastínium – incidentalóm – chirurgická koronárna revaskularizácia – chirurgická resekcia

Primary mediastinal liposarcomas are very rare and represent less than 1% of mediastinal tumors (1, 2) and usually develop in the posterior mediastinum. Only a few cases of primary liposarcoma of the anterior mediastinum have been reported so far (3).

Symptoms include dyspnea, chest pain, wheezing, coughing and weight loss and are dependent on the size and the invasion to the mediastinal structures. However, they can grow to the pleural cavity and remain asymptomatic despite their large size (1, 4).

We report the incidental finding of a large primary mediastinal liposarcoma in a patient with exertional dyspnea, who underwent coronary artery bypass surgery.

Case presentation

An 81-year-old male was admitted to our hospital for elective coronary artery bypass grafting (CABG) due to severe distal left main stenosis and one vessel coronary artery disease.

The patient suffered from ischemic heart disease, persistent atrial fibrillation, chronic heart failure, arterial hypertension and dyslipidemia and he was short of breath during mild exercise.

The preoperative echocardiography showed reduced ejection fraction of 30%, without valve pathologies, and the symptoms of the patient were attributed to the ischemic heart disease and the chronic heart failure.

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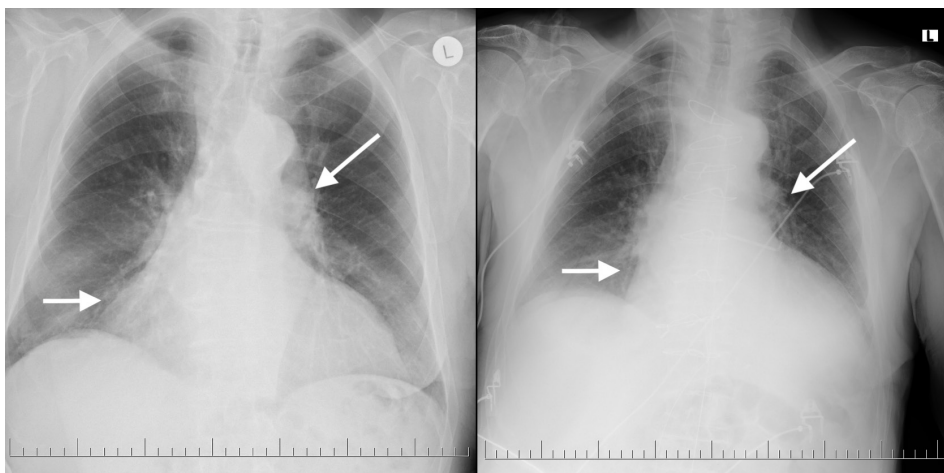


Figure 1 Preoperative and postoperative chest X ray-comparison

The patient underwent an off-pump CABG with left internal mammary artery anastomosis to the left anterior descending artery and occlusion of left atrial appendage with an Atriclip. After median sternotomy a large (16 x 8 x 4 cm, weight 450 grams) pale yellow soft tumor with palpable lumps was found in the anterior mediastinum, extending to the right pleural cavity reaching the level of the right pulmonary hilum without invasion of any adjacent structures. The tumor was

removed en bloc with a safe margin before the construction of the bypass coronary artery anastomosis. The patient did not receive any further treatment, the postoperative course was uneventful, and he was discharged after 10 days.

Preoperative chest X-ray was not indicative of this diagnosis, but there was a visible difference when compared to postoperative X-ray (**Figure 1**). Preoperative chest computed tomography (CT) is not routinely performed in patients sche-

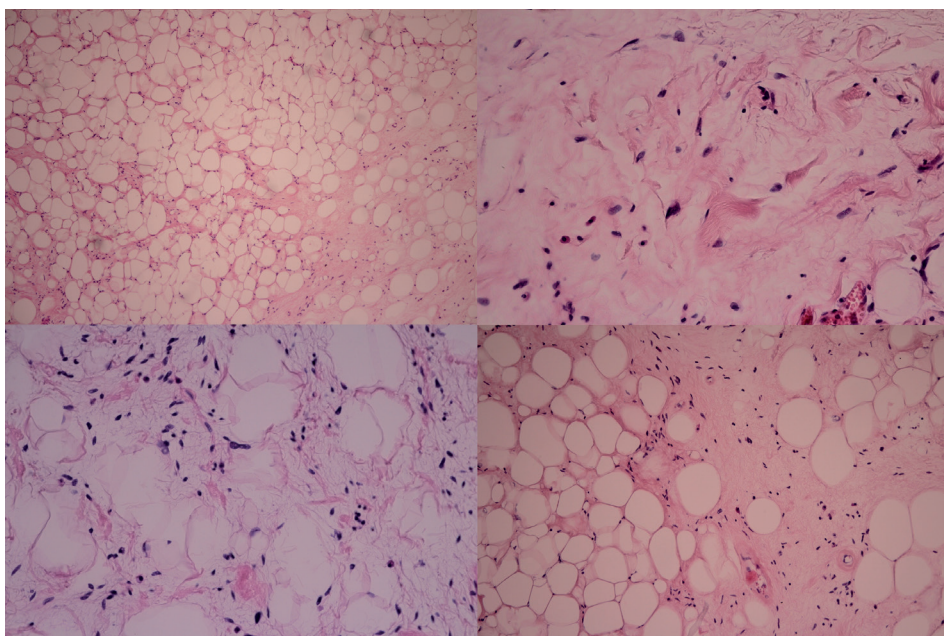


Figure 2 Histology sections showing low grade well-differentiated primary mediastinal liposarcoma-lipoma like variant with spindle cell component (Hematoxylin and eosin staining, magnification x100)

duled for off-pump surgery without other indications. In this case the primary mediastinal liposarcoma was a perioperative incidental finding.

Histology showed a low grade well-differentiated primary mediastinal liposarcoma – lipoma-like variant with spindle cell component (**Figure 2**).

Discussion

Liposarcoma comprises approximately 1% of all malignancies and is the second most common soft tissue sarcoma in adults. The commonest site is the lower limb followed by retroperitoneum. Primary liposarcoma of the mediastinum usually develops in adults older than 40 years, is rare, and represents less than 1% of the mediastinal tumors. Most commonly develop in the posterior mediastinum. Liposarcoma of the anterior mediastinum is very rare and not many cases are presented in the international literature.

The presenting signs and symptoms are related to size and the direct invasion of contiguous structures in the mediastinum (1). In our case, the patients only clinical presentation was shortness of breath without angina during exercise. It can be discussed if this relatively large mediastinal tumor was not a large contributing factor to patient's clinical difficulties.

The predominant finding of mediastinal liposarcoma on conventional chest radiography is usually a widened mediastinum. However, in our report the preoperative chest X-ray was not pathognomonic, but there was a visible difference when compared to the postoperative X-ray. Preoperative chest CT was not performed because it is not routinely performed in patients scheduled for off-pump surgery without other indications, and the primary mediastinal liposarcoma was a perioperative incidental finding.

Based on the limited published data radical surgical resection appears to be the best treatment modality and greatly increases the rate of disease-free and overall survival (5, 6). Postoperative radiation therapy did not display obvious benefits in reducing recurrence according to some studies (7). In

our report, the patient underwent radical surgical resection with no further treatment.

Pathologically four main types of liposarcoma have been described: myxoid, well-differentiated, dedifferentiated and pleomorphic, with the first two types allowing better survival (8). In our report histology showed a low grade well-differentiated primary mediastinal liposarcoma.

In conclusion, although primary mediastinal liposarcomas especially in the anterior mediastinum are extremely rare, they should be considered as a possible explanation for shortness of breath and chest pain. These symptoms can mimic heart failure and ischemic heart disease.

Declaration of conflict of interest

The authors declare no conflict of interest.

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