

Case Report

Malignant Pericardial Effusion and Cutaneous Metastasis – An Initial Presentation of Adenocarcinoma of Lung

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Abstract

Cardiac tamponade is a life threatening condition. It is rarely the first sign of malignancy which can be diagnosed by cytological examination of pericardial fluid. Subcutaneous metastatic nodules also are an uncommon first sign of underlying cancer.

In this report we present a 62 years old case of lung cancer who initially presented with the above two rare clinical signs. He was admitted with cardiac symptoms, chest pain and dyspnea since last 6 months. Chest radiographs showed cardiomegaly and diagnosis of cardiac tamponade was made. Pericardiocentesis showed malignant cells, morphologically suggestive of an adenocarcinoma. Fine needle aspiration of the subcutaneous nodules showed a similar picture. Search for the primary revealed a mass in the lung on computed tomography.

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Key Words : Cardiac tamponade, cutaneous metastasis, FNAC, adenocarcinoma lung.

Introduction

Cardiac tamponade is a rare initial sign of underlying malignancy. Presence of fluid in cavities can be confusing clinical problem in differential diagnosis. The examination of aspirated fluid has proved to be of decisive value in the diagnosis of malignant and non malignant diseases.¹ Eighteen cases of cardiac tamponade have been reviewed in literature as an early manifestation of lung cancers.²

Cutaneous metastasis occurs in 0.7 to 9% of all patients with all cancer and less than 5% in lung cancer.³ Here we present a case of adenocarcinoma lung with metastatic deposits in the pericardium and subcutaneous tissue, presenting as the first signs of an underlying malignancy and the usefulness of cytological examination to unmask the underlying disease.

Case Report

A 62 year male presented with complains of chest pain, dyspnea

and cough with loss of weight since 4-6 months. He had been a longstanding smoker. There was no history of tuberculosis in family. On general examination he was emaciated having pallor, clubbing and engorged jugular veins. No significant lymphadenopathy was found. There were multiple 0.5 to 4 cm sized firm non tender nodules present over anterior and posterior chest wall as well as on abdomen (Fig.1a). Chest radiographs revealed marked cardiomegaly (Fig.1b). Electrocardiogram and echocardiography confirmed pericardial effusion leading to cardiac tamponade.

Clinical and radiological findings suggested tuberculous effusion. Pericardiocentesis was done and about 120 ml haemorrhagic fluid was aspirated and sent for cytological examination. Smears were stained with hematoxylin and eosin (H&E), Papanicolaou, mucicarmine and periodic acid Schiff stain. Fine needle aspiration cytology (FNAC) was done from the subcutaneous nodules.

The sediment smears and the FNAC smears showed similar features. The smears were markedly cellular with epithelial cell clusters showing focal glandular and papillary pattern. The cells showed eccentrically placed nuclei with prominent nucleoli and abundant vacuolated cytoplasm (Fig. 2). To differentiate it from mesothelioma, mucicarmine and PAS with diastase digestion were done. Cells showed cytoplasmic positivity.

A search for the primary led to the discovery of a mass in the

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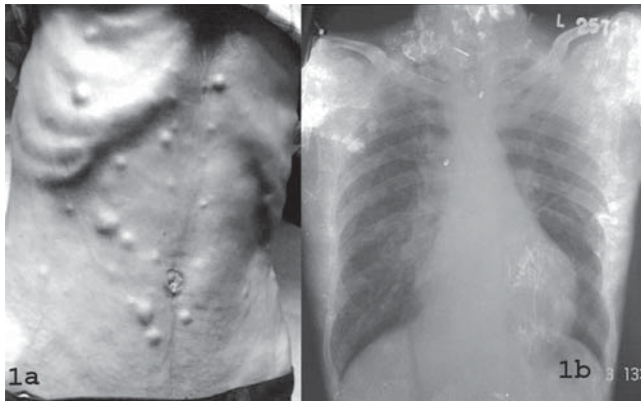


Fig. 1(a) : Multiple, non tender, nodules over anterior chest and abdominal wall, (b) Chest radiograph showing cardiomegaly

left lung on computed tomography of the chest.

Discussion

Approximately 10% of patients with terminal malignancy have cardiac involvement; out of these 8.5 % have pericardial involvement.⁴ Muir and Rodger² reported five cases of cardiac tamponade due to undiagnosed malignancy. Yazdi et al⁵ reviewed cytological findings in 72 patients with positive malignant cells in pericardial effusion. They found 80% epithelial and 20% non epithelial malignancy like lymphoma, leukemia, mesothelioma.⁵ Pericardial fluid cytology is not of value in making early diagnosis of cancer although on several occasions positive cytology unmasks the undiagnosed malignancy.⁶

Cutaneous nodules may also present as first sign of underlying malignancy. The commonest site for skin metastasis in lung cancer is chest and abdominal wall. It is common in men than in women. One study of 2,080 cases of lung cancer found skin metastasis in 1.5% of patients.⁷ In another series of 56 patients with skin metastases from lung malignancies, 7% developed a metastatic skin nodule before the primary tumour was diagnosed, and 16% had a cutaneous metastasis diagnosed simultaneously with the primary lung tumour.⁸ It is important to be aware of frequent metastatic involvement of the heart, pericardium and

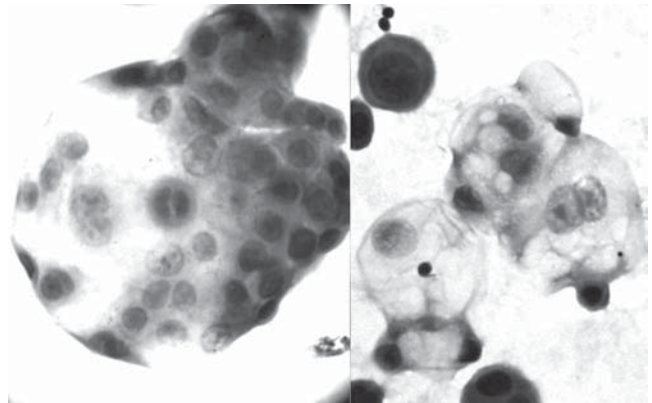


Fig. 2: Tumour cells showing abundant vacuolated cytoplasm with nucleus pushed towards the periphery. Papillary structures are seen (H&E, x 400).

skin as well.

Our case initially presented with both pericardial effusion and subcutaneous nodules. The cytological examination was helpful in making a definite diagnosis.

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