

Malignant Pericardial Effusion Secondary to Mucoepidermoid Carcinoma of the Parotid Gland

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Citation

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Abstract

A 42 year old female presented with worsening shortness of breath of one month duration accompanied by cough and hemoptysis for 3 weeks, and significant weight loss. Physical examination revealed mild to moderate respiratory distress, tachycardia, a left parotid gland mass, bilateral cervical lymphadenopathy and normal heart sounds. A diagnosis of malignant hemorrhagic pericardial effusion secondary to metastatic mucoepidermoid carcinoma of the parotid gland was made by CT scan, echocardiography, fine needle aspiration of the parotid mass and cytological examination of the pericardial effusion.

Pericardiocentesis resulted in a remarkable and prolonged improvement in patient's symptoms. We report a rare case of malignant pericardial effusion secondary to mucoepidermoid carcinoma of the parotid gland.

INTRODUCTION

A large symptomatic pericardial effusion can be the initial presentation of an unrecognized underlying malignancy. Four cases of parotid carcinoma with pericardial involvement (only one of the mucoepidermoid variant) have been previously cited in the literature. We report an unusual case of malignant pericardial effusion secondary to metastatic mucoepidermoid carcinoma of the parotid gland in a patient presenting with worsening shortness of breath, weight loss and parotid swelling. The diagnosis was made by CT scan, echocardiography and fine needle aspiration of the parotid mass. Pericardiocentesis resulted in remarkable improvement in patient's symptoms.

CASE REPORT

A 42 year old female presented with worsening shortness of breath of one month duration accompanied by cough and hemoptysis for 3 weeks. In addition, she had also lost 60 lbs of weight over the last eleven months. She denied fever, paroxysmal nocturnal dyspnea, leg swelling, loss of appetite, or contact with TB patients. The Past medical history included; type II Diabetes Mellitus, bipolar disorder, and she had discontinued all her meds 9-10 months ago. Her social history included; an admission for cocaine abuse, a smoking history of 2 packs of cigarettes daily for 10 years, with a history of alcohol abuse.

Physical examination revealed the following pertinent findings; Temperature of 98.2 F, pulse rate was 129 bpm, breathing at 24 breath/min, blood pressure of 155/90, O₂ saturation was 97% on room air. She was in mild to moderate respiratory distress, with a 2.5 x 3 cm soft fluctuant left parotid mass, and distant normal heart sounds.

Subsequent workup was positive for the following: a chest x ray revealed right upper lobe Interstitial infiltrate. A CT scan of the neck and chest showed two necrotic masses in the left parotid gland (1.4 and 1.3 cm) with enlarged lymphadenopathy bilaterally, extending from the mandible through the supraclavicular region, right upper lobe infiltrate, and right pleural effusion, with a large pericardial effusion. The latter was confirmed by a 2 D Echocardiogram which showed neither tamponade nor structural heart disease. TB was ruled out. A Fine Needle Aspirate from the left parotid mass showed poorly differentiated mucoepidermoid carcinoma (Figure 1).

Figure 1

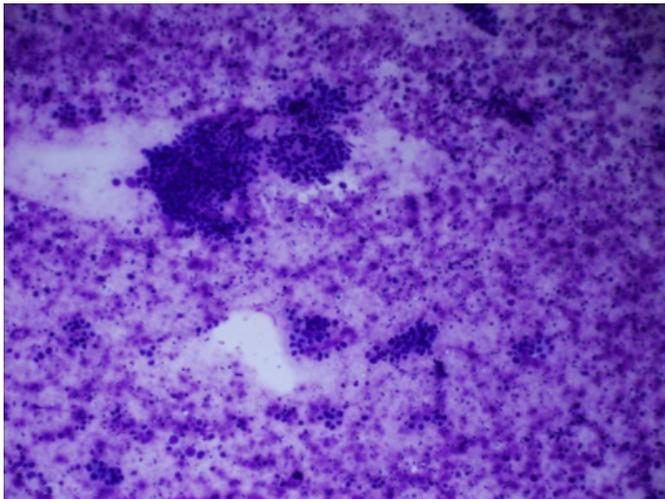
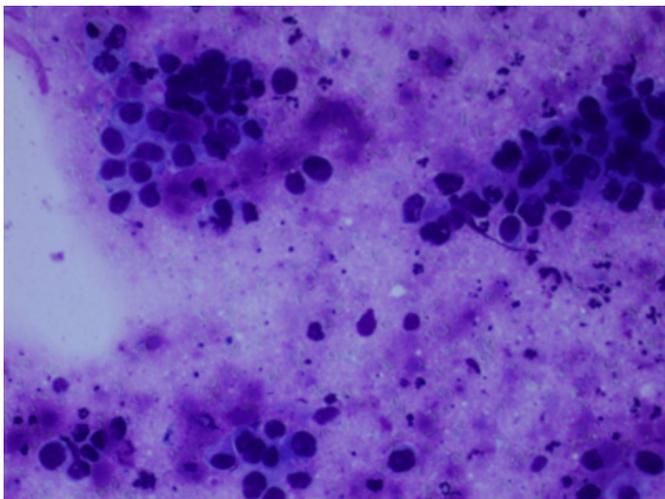


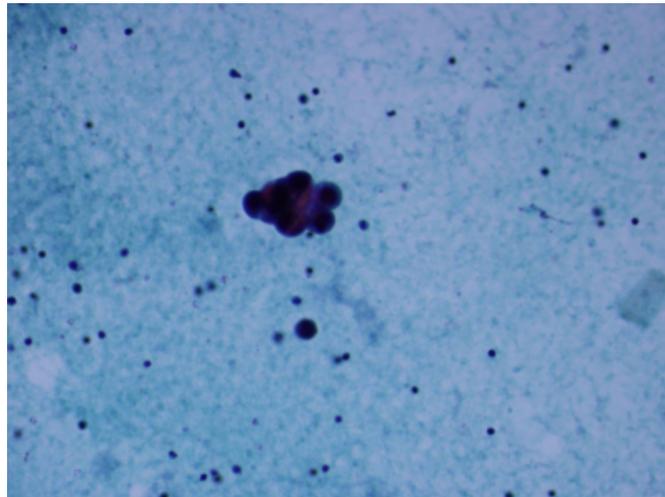
Figure 2



Pericardiocentesis was performed for both therapeutic and diagnostic purposes and 700 ml of hemorrhagic fluid was drained resulting in a remarkable improvement in symptoms, cytology of the fluid showed a poorly differentiated carcinoma (Figure 2).

Figure 3

Figure 2: Papanicolaou stain of pericardial fluid reveals undifferentiated clump of cells with cellular anaplasia.



DISCUSSION

Lung (40 percent), breast (22 percent) carcinoma and lymphomas (15 percent) are the most common causes of malignant pericardial effusion. [1] However, Gastrointestinal carcinoma, melanoma, and sarcomas are less common. The relative incidence is especially high in malignant melanoma and to, somewhat lesser extent, in leukemia and lymphoma.

A search of the literature revealed three cases of parotid carcinoma involving the pericardium; [2, 3, 4] Becker et al reported a case of malignant pericardial effusion secondary to metastatic mucoepidermoid. Sulkes et al reported a metastatic pericardial involvement due to parotid adenocarcinoma. Nikolaos reported an unusual case of a patient with adenocarcinoma of the parotid gland, which presented with cardiac tamponade and was treated urgently with pericardial drainage and intrapericardial injection of cisplatin.

In most cancer patients with effusions or tamponade, it is important that metastatic involvement of the pericardium be confirmed by identification of malignant cells in pericardial fluid. Confirmation is important because of occasional cases of obstructed lymphatic drainage causing pericardial effusion, the possibility of confusion with radiation-induced disease, and the fact that other forms of pericardial disease can occur in patients who have or have had cancer.[1]

It is important to evaluate the life expectancy of patients before performing pericardiocentesis and choosing treatment modalities. In terminally ill patients, drainage of effusions should be performed only to aid in relief of symptoms.

However, patients with better prognoses deserve a more aggressive approach. In a significant number of cases a single drainage provides prolonged relief as well as fluid for analysis. For recurrences, intrapericardial instillation of tetracycline or chemotherapeutic agents has been advocated to encourage pericardial sclerosis and has a reasonable record of success.

External beam radiation therapy is an option in patients with radiation-sensitive tumors. A pericardial window or even complete surgical pericardiectomy should be considered in patients with recurrent effusions not responding to the preceding measures who continue to have a good prognosis otherwise. [5]

In summary, this rare case suggests that a malignant pericardial effusion should be considered in patients with parotid cancer who develops pericardial effusion. A single drainage of pericardial fluid in patients with cancer provides prolonged relief as well as fluid for analysis.

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References

1. Spodick DW: Pericardial diseases. In: Braunwald E, Zipes D, Libby P (editors): Heart Disease 6th ed. Philadelphia, WB Saunders, 2001, pp1823-1876.
2. Becker S, Reza M, Greenberg S, Stein J. Pericardial effusion secondary to mucoepidermoid carcinoma of the parotid gland. A report of an unusual case. *Cancer*. 1975; 36:1080-1085.
3. Sulkes A, Weshler Z, Dolberg L, Biran S. Isolated pericardial metastasis of parotid tumor origin. *Head Neck Surg*. 1982; 4:344-348.
4. Barbetakis NG, Vassiliadis M, Krikeli M, Antoniadis T, Tsilikas C. Cardiac Tamponade Secondary to Metastasis from Adenocarcinoma of the Parotid Gland. *World J Surg Oncol*. 2003 Oct 10;1(1):20.
5. Frankel KM: Treating malignancy-related effusions. *Chest* 2003; 123:1775.

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