Unusual region for pericardial malignant mesothelioma: cutaneous manifestation in a Turkish woman

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Abstract

Malignant mesothelioma is a disease that originates from mesenchymal cells. It is related to the occupational or environmental exposure to asbestos. The treatment remains controversial because it is commonly diagnosed at a very late stage, and the prognosis is very poor. In this report, we present a 37-year-old female patient who was admitted with shortness of breath, palpitation and inability to sleep on her back for the previous 10 days. A large pericardial effusion was detected on echocardiography. Pericardiocentesis was performed and the patient's symptoms were alleviated. However, approximately 7 months later, she was readmitted to the clinic with complaints of a mass at the incision site. Pathological examination of the mass yielded a diagnosis of pericardial malignant mesothelioma. Malignant mesothelioma is a rare occurrence, and to our knowledge, there are no reports in the English literature of pericardial malignant mesothelioma local invasion to an incision site.

Case Report

A 37-year-old female patient was admitted with a 10-day history of shortness of breath, palpitation and inability to sleep on her back. The plain chest X-rays showed extensive pericardial effusion. The patient was operated under general anesthesia. Pericardiocentesis was performed and the patient's symptoms were alleviated. However, approximately 7 months later, she was readmitted to the clinic with complaints of a mass at the incision site. Pathological examination of the mass yielded a diagnosis of pericardial malignant mesothelioma. Malignant mesothelioma is a rare occurrence, and to our knowledge, there are no reports in the English literature of pericardial malignant mesothelioma local invasion to an incision site.

Introduction

Malignant mesothelioma is an extremely rare tumor that arises from pleural, pericardial or peritoneal mesenchymal cells. A male predominance has been described. The tumor is found in patients 50-60 years of age. Especially in Central Anatolia (Turkey), since the emergence of exposure to erionite fibers in some regions, a clinical disease may be seen between 20-30 years of age. Barr and colleagues reported that 62 people died due to mesothelioma from 1970-1981 in the Karain village of Konya. The clinical manifestation of malignant pericardial mesothelioma is non-specific. The diagnosis is usually achieved during autopsy or by evaluation of surgical materials. The prognosis is very poor and the median survival from diagnosis is 6 months. The optimal treatment is still controversial, but surgery, radiotherapy, chemotherapy, or combination therapies are most frequently used in practice. Primary malignant pericardial mesothelioma is described in the literature with about 150 cases. Only a few cases with metastasis of malignant mesothelioma have been reported. In our study, an unusual case of pericardial mesothelioma presenting as a mass at the incision site is described.
Discussion

Malignant mesothelioma is a very rare disease and carries a poor prognosis. The incidence of primary malignant pericardial mesothelioma was below 0.0022% in a necropsy study. Most cases of mesotheliomas are related to asbestos exposure. Asbestos causes a chronic inflammatory and fibrotic reaction, which is managed by cytokines and activated macrophages. Tumors are classified as epithelioid, sarcomatoid, desmoplastic, or biphasic based on tissue biopsy. Any combination of patterns may be present. Epithelioid mesotheliomas show a wide range of morphologic patterns, such as tubulopapillary, adenomatoid, lymphohistiocytoid, deciduoid, and small cell variant. Recognition of these variants of epithelioid mesotheliomas is important in the diagnosis, but they have no clear prognostic significance. Spindle cell and desmoplastic mesotheliomas are associated with a shorter survival than the conventional type.

The clinical findings of pericardial mesothelioma are constrictive pericarditis, pericardial effusion, cardiac tamponade, and heart failure. Echocardiographic evaluation is the most commonly used diagnostic tool. A pericardial fluid drainage provides relief to the patient. However, the reliability of body cavity fluid cytology is low for malignant mesothelioma; its sensitivity is reported to be 33-84%. Differentiation of mesothelioma from benign mesothelial hyperplasia with reactive atypia can be very difficult or impossible in cytologic specimens, so purely cytologic diagnosis of malignant mesothelioma is fairly low. For definitive diagnosis, histochemical, immunohistochemical and electron microscopic examinations are required. Magnetic resonance or PET-CT may be used to identify the presence of a pericardial mass. Duysinx et al. found PET scanning to have a 96.8% sensitivity and 88.5% specificity for malignant pleural disease. Mesotheliomas mainly metastasize to the intrathoracic lymph nodes or lung, and distant metastasis of malignant pericardial mesothelioma is very rare. In the literature, intracardiac invasion into the right atrium was reported in pericardial mesothelioma. Pleural mesothelioma with metastasis has been described in a wide variety. Furthermore, tumor metastases from the parietal pleura to the skin surface following tracts from pleural procedures are known complications of mesothelioma. However, pericardial mesothelioma metastasis to the skin surface is not a familiar situation.

Conclusions

Etiological research is very important in patients presenting with pericardial fluid, especially in endemic areas. In our study, while the patient had no known history of asbestos exposure, she may have been exposed due to her residence in a village area of Konya. No reports were found in the literature regarding pericardial malignant mesothelioma local invasion to an incision site. Although pericardial fluid cytology may be negative for these malignant diseases, the masses should be considered seriously because early diagnosis is very important.

References

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