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RESEARCH ARTICLE

PLEURAL INVOLVEMENT REVEALING MULTIPLE MYELOMA

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Abstract

Extramedullary multiple myeloma (EMM) is an uncommon complication that presents in only 7% of patients with multiple myeloma. Common sites of involvement include the gastrointestinal and central nervous system; Involvement Pleural is very rarely seen. This report describes a patient that pleural involvement with pleural plasmacytoma reveal the diagnosis of Multiple Myeloma.

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Introduction:-

Extramedullary plasmacytoma may sometimes be seen as an initial manifestation or a part of relapse in patients with multiple myeloma (MM).

In rare cases, extramedullary disease may involve the pleural (pleural plasmacytoma) and can result in nodular pleural thickening with or without pleural effusion. These tumors are extremely rare and have not been widely described in the medical literature.

In this report, we describe a case of pleural plasmacytomas reveal Multiple Myeloma.

Case Report

A 67-year-old man with a history of pulmonary tuberculosis treated on 2006 and 2012; chronic smoking and chronic alcoholic, presented to our hospital with dyspnea, cough chest pain epistaxis and hematuria, the physical examination is normal.

The findings of the patient are anemia, creatinine levels, monoclonal gammopathy in serum protein electrophoresis, light chain band in the urine immunofixation electrophoresis were found.

The detection of Mycobacterium Tuberculosis in sputum is negative. immunological test is normal

Chest Scanner reveal a mass along the left posterior pleural surface with an erosion of the adjacent right ninth rib (Fig 1).

The Ultrasound-guided pleural biopsy show tumor proliferation of plasma cells and Characteristic immunohistochemical findings include the expression of CD138 confirms plasma cell infiltrate and the presence of light kappa chains.

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The bone marrow biopsy confirms the diagnosis of extramedullary plasmacytomas in the setting of Multiple Myeloma.

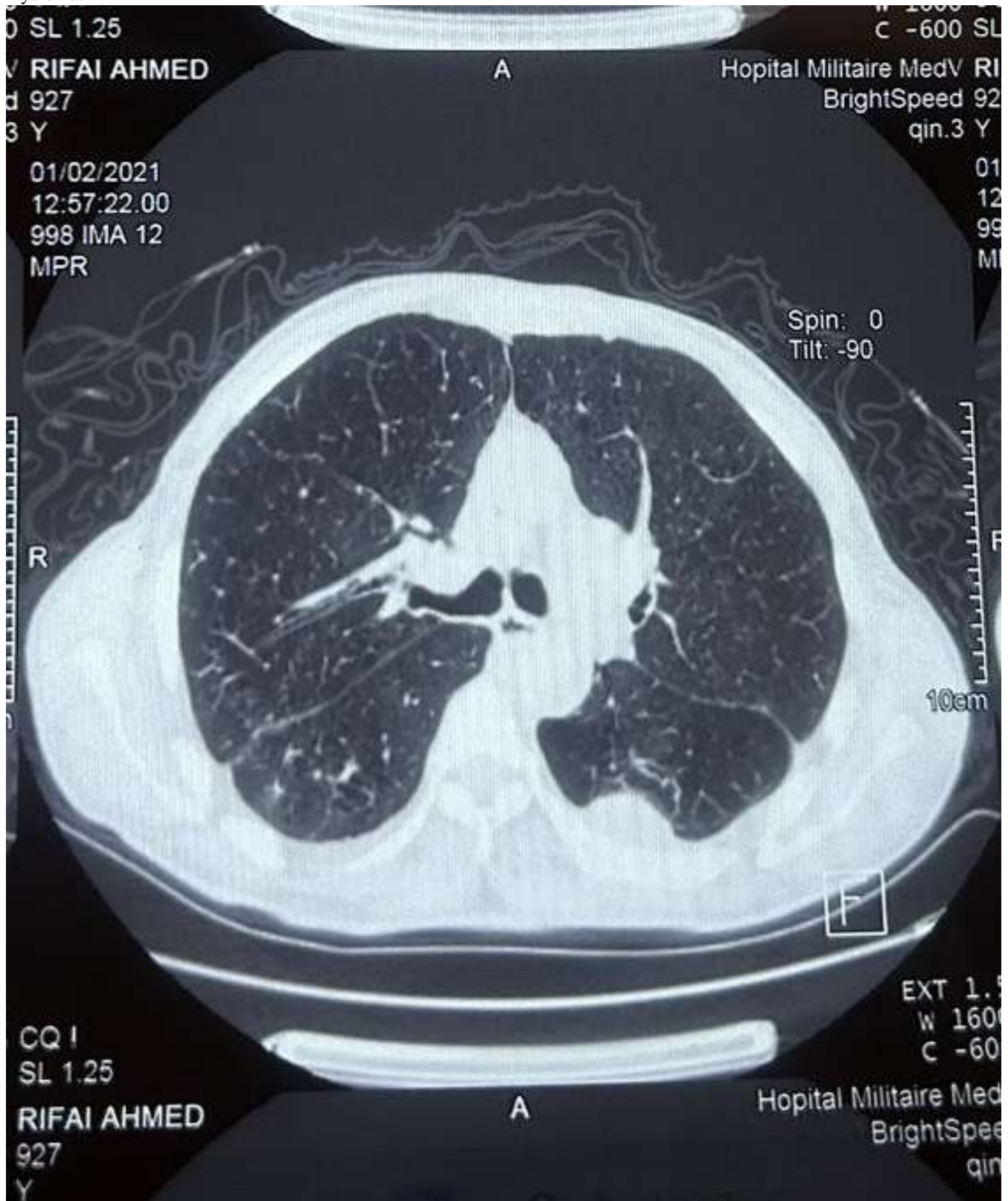


Fig 1:- Mass along the left posterior pleural surface.

Discussion:-

A plasmacytoma is a rare plasma cell neoplasm that develops within the bones or soft tissues structures [1]. Plasmacytomas typically present as a localized disease involving the bone or extramedullary sites, with no evidence of systemic involvement.

However, it is important to note that extramedullary can also develop as a part of systemic multiple myeloma (MM), which is characterized by the presence of $\geq 10\%$ clonal plasma cells in the bone marrow [2]. Extramedullary disease may be an initial manifestation of MM.

Almost 15%–30% of patients may develop extramedullary involvement during the course of MM. Although rare, thoracic involvement has been reported in patients with multiple myeloma in the form of a lung mass, diffuse reticulonodular infiltration, multiple pulmonary nodules, and nodular pleural thickening (Pleural involvement) with pleural effusion [4]. Pleural plasmacytomas are extremely rare and account for around 3–6% of extramedullary disease in MM patients [3].

Pleural effusion or diffuse pulmonary infiltration by plasma cells is rare and usually occurs in advanced disease. Moreover, the development of pleural effusion in patients with MM is seldom a direct consequence of the myeloma itself, but is usually the result of a concurrent disease process, such as pneumonia, pulmonary embolism, or heart failure. The effusion pleural caused by the infiltration of pleural fluid by malignant plasma cells is seen in less than 1% of cases and may develop due to the extension of plasmacytomas of the chest wall, invasion from adjacent skeletal lesions, or lymphatic obstruction secondary to lymph node infiltration. It may also develop due to the direct implantation of tumor nodules on the pleural [5,6].

The indeterminate pulmonary nodules or pleural lesions can be diagnosed by performing a transbronchial biopsy, CT-guided needle biopsy or a surgical biopsy through medical thoracoscopy, open thoracotomy or video-assisted thoracoscopic surgery (VATS).

The Ultrasound-guided pleural biopsy as we used in our case has a greater accuracy, it is less invasive and confirms the extramedullary plasmacytoma typically presents as a homogenous infiltrate of monoclonal plasma cells on histology [7].

Conclusion:-

The pleural involvement is a complicated condition that Multiple Myeloma patients can induce for various reasons. The diagnosis demands a detailed investigation due to the therapeutic and prognosis consequences.

Additional clinical studies are necessary for the future to discover the appropriate treatment strategy with more precision.

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