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Persistent Abdominal Pain with an Uncommon Presentation of Multiple Myeloma: A Case Study

Bounouar Ibtissam[1*], Boumaazi Hiba[3], El Manjra Chama[1], Nacir Oussama[1], Lairani Fatima Ezzahra[1], Ait Errami Adil[1], Sayagh Sanae[3], Oubaha Sophia[2], Samlani Zouhour[1], Krati Khadija[1]

[1]Department of Hepato-gastro-enterology, Mohamed VI Teaching Hospital, Cadi Ayyad University, Marrakesh, Morocco
[2]Department of Physiology, Faculty of Medicine, Cadi Ayyad University, Marrakesh, Morocco
[3]Department of Biological Hematology, Faculty of Medicine, Cadi Ayyad University, Marrakesh, Morocco

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***Corresponding author:** Bounouar Ibtissam
Department of Hepato-gastro-enterology, Mohamed VI Teaching Hospital, Cadi Ayyad University, Marrakesh, Morocco

Abstract **Case Report**

Multiple myeloma (MM) is a widespread malignant condition characterized by the proliferation of transformed plasma cells in the bone marrow, disrupting its normal functions and infiltrating adjacent bone tissues. While typically confined to the bone marrow, in rare instances, patients may develop extramedullary disease. In these uncommon scenarios, the involvement of lymph nodes poses a diagnostic challenge for practitioners in their daily routines. This report details the case of a 49-year-old male experiencing chronic abdominal pain. A computed tomography (CT) scan revealed enlargement of retroperitoneal and mesenteric lymph nodes. Biopsies confirmed a plasma cell infiltrate positive for CD138 and kappa light chain, leading to the diagnosis of multiple myeloma with extramedullary localization in lymph nodes. Our case underscores the rare presentation of extramedullary involvement in multiple myeloma, characterized by an atypical clinical manifestation.

Keywords: Multiple Myeloma (MM), Extramedullary disease, Lymph node involvement, Chronic abdominal pain.

INTRODUCTION

Multiple myeloma (MM) is a mature B-cell neoplasm defined by the presence of ≥10% of clonal plasma cells (PCs) in the bone marrow (or plasmacytoma confirmed by biopsy) and by evidence of end-organ damage (hypercalcemia, renal insufficiency, anemia, bone lesions) caused by the PC disorder [1]. While it typically remains confined to the bone marrow and surrounding bones, certain patients may develop extramedullary disease (EMD) in the form of soft tissue plasmacytomas [2]. EMD commonly affects the upper respiratory tract, gastrointestinal tracts, skin, and lungs [3,4], with lymph nodes being involved in rare cases (less than 1% of all EMD) [5]. In this case presentation, we describe a patient with EMD affecting the abdominal and axillary lymph nodes at the time of MM diagnosis with abdominal pain as the only clinical symptom.

CASE REPORT

A 49-year-old man was admitted to our hospital for abdominal pain persisting for the last 6 months. He had no medical history and did not have other symptoms such as bone pain, fever, appetite loss, weight loss or night sweats during this period. The initial vital signs were normal and on physical examination, palpable right axillary lymph nodes with general abdominal pain were noted.

The patient's hemogram showed pancytopenia with the hemoglobin rate at 8.2 g/dl, white blood cell and platelets counts were 3140 and 55 000 per cubic millimeter, respectively, and the erythrocyte sedimentation rate was 115 mm/h. Ferritin level was very high 1125 (normal range: 18–270 ng/ml). His serum lactate-dehydrogenase level was normal at 181U/L (normal range: 125-243 U/L). Blood creatinine was high at 2.12 mg/dL, blood calcium was also high at 2.79 mmol/L, inorganic phosphate and other values for biochemical analyses and parameters of hemostasis were within the normal range. The serum protein electrophoresis revealed a monoclonal gamma spike at 5 g/L (figure 1).

Thoracic and Abdominal CT showed axillary and abdominal lymphadenopathy (the largest lymph node was in the right axillary area measuring 21 mm in diameter).

A biopsy of the axillary lymph node has been performed and the histopathological examination of the specimens revealed mature plasma cells with abundant eosinophilic cytoplasm and round eccentric nuclei where tumor cells are strongly positive for CD138, and Monoclonal κappa light chain is strongly positive in the plasma cells. A bone marrow biopsy showed Clonal marrow plasma cell percentage of 16% (figure 2) and the tumor cells are strongly positive for CD138.

The diagnosis of multiple myeloma with extramedullary localization was considered and the patient was referred to hematology services for chemotherapy treatment.

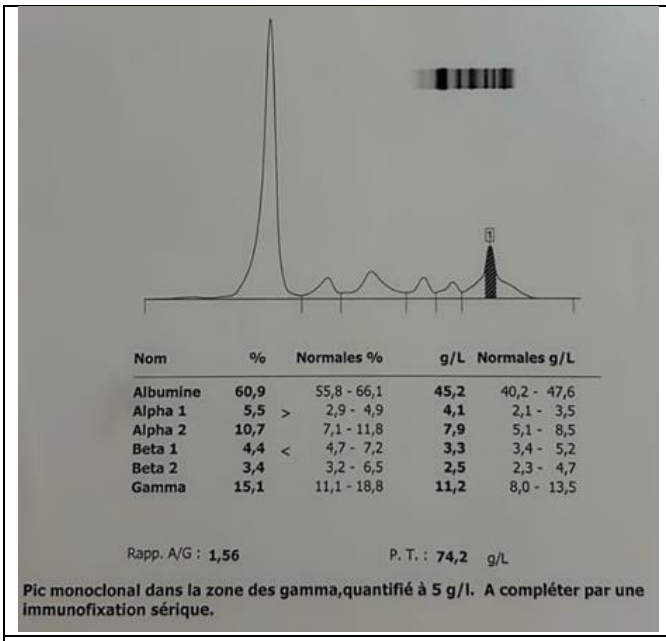

Figure 1: serum protein electrophoresis revealing a monoclonal gamma spike at 5 g/L

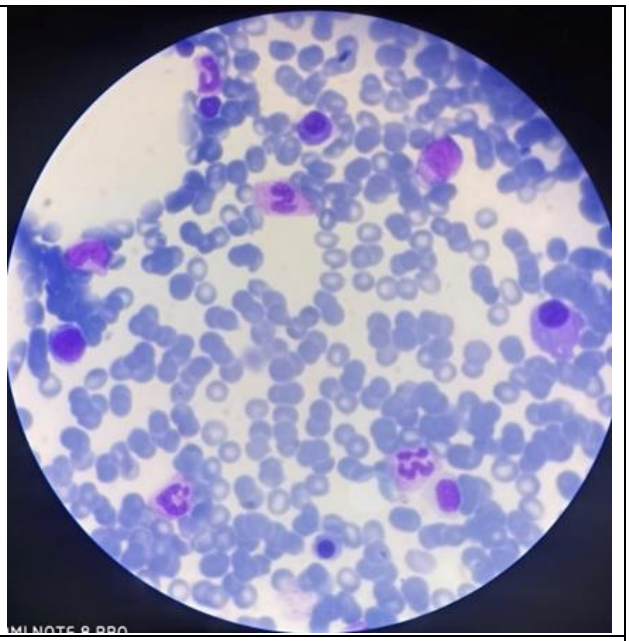

Figure 2: bone marrow biopsy showed Clonal marrow plasma cell

DISCUSSION

Multiple myeloma (MM) is a systemic plasma cell disorder accounting for 1.5% of all cancers [2]. Histologic examination revealed diffuse replacement of nodal architecture by plasmacytic infiltration [3]. A plasmacytoma with more than 10% of plasma cell proliferation in bone marrow has always been indicative of MM [4]. With this in mind, we classified our patient as having MM. The major difficulty in MM is the disease definition because it is clinicopathological; it needs overt clinical manifestations of serious end organ damage, such as osteolytic bone lesions and renal failure, before the diagnosis can be made. It is important to note that the most common presenting symptoms of MM are fatigue and bone pain [4, 5]. Anemia occurs in approximately 75% of patients, and osteolytic skeletal lesions can be detected in approximately 80% of patients [5, 6]. Common laboratory findings at presentation include hypercalcemia (15%) and elevated creatinine > 2 mg/dl (20%) [6] Which is the case with our patient. Extramedullary involvement occurs in only 1 to 2% of patients with MM at the time of diagnosis, while an additional 8% develop extramedullary disease later in the disease course [6]. In a large study, bone pain/discomfort was the most common symptom reported in MM with 73.7% presenting with a disease-specific symptom [5]. In contrast, from 108 patients presenting with abdominal pain, only eight were diagnosed as having MM, excluding abdominal pain as a frequent disease-specific symptom for MM [5] is a technique used to differentiate individual cell lineages. This is done by attaching surface antibodies to cell specific surface antigens. Myeloma has been shown to stain positively with CD138 [7].

Rapid diagnosis may result in favorable patient outcomes, including fewer complications and reduced mortality [8]. Available data on treatment outcomes for extramedullary disease in multiple myeloma are almost entirely derived from retrospective studies. The paucity of prospective studies makes it difficult to justify strong recommendations for any treatment approach [9]. For upfront treatment in transplant-ineligible patients, the addition of daratumumab to VMP (bortezomib, melphalan, and prednisone) or RVD (lenalidomide, bortezomib, and dexamethasone) was suggested. In transplant-eligible patients, intensive anti-myeloma/anti-lymphoma regimens: VTD (bortezomib, thalidomide, dexamethasone) or VRD (bortezomib, lenalidomide, dexamethasone), and PACE (cisplatin, doxorubicin, cyclophosphamide, etoposide) combined with stem cell transplantation are proposed as a theoretical option [9]. The average life expectancy of individuals with multiple myeloma is 5-8 years from the time of diagnosis, with only approximately one-third of patients living beyond 5 years [10].

CONCLUSION

In the present era, Multiple Myeloma (MM) stands as one of the most prevalent hematologic diseases. Historically, diagnosis was infrequently made until severe symptoms emerged. However, recent advancements enable early detection and treatment, leading to improved prognoses. Limited research has explored diverse initial manifestations of the disease. Thus, we present this case to emphasize the importance of recognizing atypical presentations, especially abdominal pain, due to its heightened mortality risk. Remarkably, there is a dearth of studies investigating the connection between the initial presentation of MM and mortality prognosis. This case provides valuable insights that extend beyond our current understanding, illuminating potential avenues to enhance survival rates in these patient populations.

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