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LETTER TO THE EDITOR

Re: Primary Plasma Cell Leukaemia
Case report and review of the literature

رد: سرطان خلية بلازما الدم الأولي
تقرير حالة ومراجعة الأدبيات

Dear Editor,

I read with interest the recent case report by Singh *et al*. published in the August 2018 issue of *SQUMJ*, in which the authors describe a 69-year-old male patient with rectal bleeding associated with pallor, dyspnoea and chest pain.[1] Laboratory tests showed microcytic hypochromic anaemia, leukocytosis, low platelets and a high erythrocyte sedimentation rate. Elevated levels of urea, creatinine, uric acid, immunoglobulin D, kappa light chains and β2-microglobulins were also detected, while abdominal, thoracic and skeletal imaging did not show any abnormalities.[1] A bone marrow aspirate revealed 61% atypical plasma cells. Subsequently, a diagnosis of primary plasma cell leukaemia (PCL) was confirmed and bortezomib-based chemotherapy was administered, resulting in a good response.[1]

Myeloma cells can travel to the peripheral blood if expression of the cell adhesion molecule cluster of differentiation (CD)56 decreases.[2,3] Along with CD19, CD20 and CD23 positivity, this phenomenon is often observed among patients with primary PCL, while the positive expression of CD28 and interleukin-6 are considered important in secondary cases.[2,3] Leukocytosis, high levels of lactate dehydrogenase and β2-microglobulins and the presence of bone lesions can help to differentiate primary PCL from myeloma.[4] Singh *et al*. therefore highlighted the need for consensus guidelines in primary healthcare for the purposes of early diagnosis and prompt and adequate treatment.[1] Other case reports have also emphasised the diagnostic pitfalls associated with unsuspected cases of myeloma, rib plasmacytoma, multiple myeloma and secondary PCL.[4–6] These cases may help to enhance suspicion of plasma cell malignant disorders among primary healthcare workers.

Dos Santos *et al*. reported a 53-year-old female patient with multiple myeloma and secondary PCL; the patient had 25% plasma cells in a bone marrow aspirate and positive expressions of lambda light chains, CD56 and CD20 as well as 23% circulating peripheral blood plasma cells.[4] She had high levels of urea and creatinine and was hypercalcaemic and anaemic. An X-ray showed radiolucent speckled areas in the humeral diaphysis with no evidence of organomegaly or lymphadenopathy.[4] A diagnosis of leukaemia was made, based on the presence of >2,000/mm^3 circulating plasma cells, some of which were dysplastic. Subsequently, the patient demonstrated significant clinical improvement following treatment with dexamethasone, cyclophosphamide, thalidomide, cisplatin, doxorubicin and etoposide.[4]

Another case report described a 65-year-old female patient who was diagnosed with rib plasmacytoma, overt immunoglobulin (Ig)-A-producing multiple myeloma and hyperviscosity syndrome.[5] She had a history of dyspnoea and a mental disorder and subsequently developed chronic renal failure, respiratory disturbance and heart failure. Bio-chemistry tests showed elevated urea, creatinine and calcium levels and β2-microglobulins; in addition, she was anaemic and her IgA and kappa light chain levels were 8,917 mg/dL (normal range: 153–359 mg/dL) and 2,990 mg/dL (normal range: 625–1,668 mg/dL), respectively.[5] The presence of >50% plasma cells with basophilic cytoplasm, eccentric *nuclei* and large *nucleoli* in a bone marrow biopsy established the diagnosis of multiple myeloma. The patient was treated with dexamethasone and underwent plasmapheresis without improvement.[5]

Finally, dos Santos *et al*. reported a 64-year-old male patient who presented with dizziness, fatigue, dyspnoea, lumbar pain and high levels of calcium, urea and creatinine.[6] Multiple osteolytic lesions were detected in the cranium and lumbar spine, in addition to a monoclonal peak in the gamma region and high levels of IgG. A bone marrow aspirate revealed >40% plasma cells.[6] The patient was eventually diagnosed with multiple myeloma at a late stage, due partly to a history of activities resulting in overload on the axial skeleton because of his profession as a construction foreman, as well as nonsteroidal anti-inflammatory drug abuse. He underwent chemotherapy which resulted in an unsatisfactory response.[6]

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Response from the Authors

Dear Reader,

Thank you for your letter highlighting similar cases of unsuspected multiple myeloma and primary or secondary plasma cell leukaemia (PCL).[1–3] There are certain points upon which we wish to elaborate. Firstly, as mentioned in the original publication by Singh *et al.*, a decrease in the expression of cluster of differentiation (CD)56 is a reliable marker of PCL.[4] However, in the 40–50% of cases wherein CD56 is not expressed, diagnostic difficulties ensue.[5] Secondly, flow cytometry has proven to be a valuable adjunct in diagnosing myeloma and/or PCL.[6] This method should therefore be paired with bone marrow and peripheral blood flow cytometry for the detection of circulating plasma cells by using CD markers such as CD27, CD28, CD117, CD200, CD229 and CD81. Specifically, the expression of MYC, cyclin D1 and p53 in bone marrow biopsies can differentiate between different types of PCL, as cyclin D1 is exclusive to primary PCL, while the other two markers are seen in both forms.[7] Thirdly, we wish to caution against the interchangeable usage of the terms dysplastic and anaplastic.[2]

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