Combined (endovascular and radiation therapy) treatment of aggressive large plasmacytoma with multiple myeloma (clinical case).

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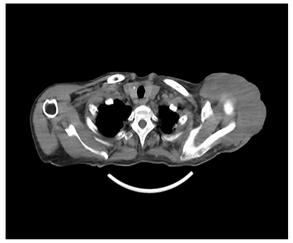
Introduction and Aim

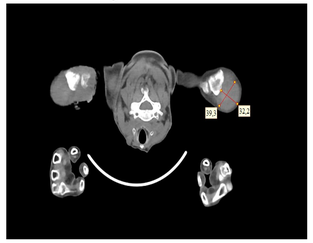
•Multiple myeloma is a mature B-cell neoplasm that accounts for 13% of all hematologic malignancies and has an age-adjusted incidence rate of nearly 6 per 100 000 persons per year. Multiple myeloma is defined by the presence of ≥10% of clonal plasma cells in the bone marrow (or a biopsy-proven extramedullary plasmacytoma) and by the evidence of end-organ damage attributed to the plasma cells disorder (hypercalcemia, renal insufficiency, anemia, and bone lesions). For most myeloma patients, the plasma cells proliferation is restricted to the bone marrow. However, a subset of multiple myeloma patients develops extramedullary myeloma, defined by the presence of clonal plasma cells outside the bone marrow.

Case Report

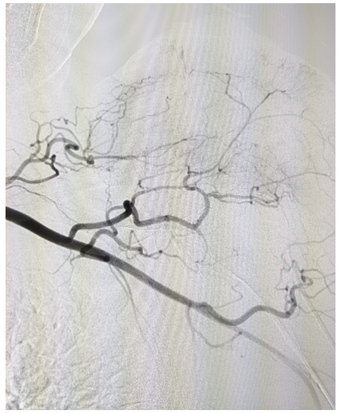
- A 65-year-old woman was diagnosed with IgG-lambda multiple myeloma in 2020. At this time, she presented with symptomatic myeloma-related bone lesions, and a bone marrow aspirate confirmed the presence of 99.3% clonal plasma cells. The International Scoring System (ISS) score was high (III). The first line of therapy consisted of 5 cycles of bortezomib-dexamethasone. The patient achieved a partial response (PR) after the completion of therapy.
- Three months after the last course of chemotherapy, patient was diagnosed with biopsy-proven extramedullary plasmacytoma of the left shoulder. CT scan revealed formation measuring 127x110x45mm (Pic.1). And one month later patient was administered to the emergency department with massive bleeding from arterial branches feeding the tumor of the left shoulder. To stop the bleeding arteriography with embolization of the arteries of the upper extremities was performed (Pic. 3,4) The patient then started irradiation therapy (33 grays) in order to reduce the size of the tumor. Control CT scan revealed decreasing size of tumor compared to the previous study to 12x39x32 mm (Pic.2). The patient continued to receive bortezomib-dexamethasone therapy.



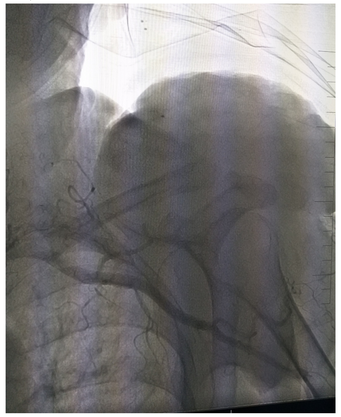
Pic.1 CT scan before treatment



Pic.2. Control CT scan after embolization and irradiation therapy



Pic.3 Arteriography of the arteries feeding the tumor



Pic.4 Arteriography with embolization of the arteries

Discussion

•Extramedullary myeloma is associated with an adverse prognosis in newly diagnosed and in relapsing multiple myeloma patients. To the best of our knowledge, no prospective therapeutic studies have been specifically dedicated to extramedullary myeloma patients. Radiotherapy of a soft-tissue plasmacytoma should be considered to improve local disease control and analgesia. Some authors recommend the combination of radiotherapy and IT chemotherapy. Innovative approaches using molecular targeted therapies or immune therapies (chimeric antigen receptor T cells) have recently shown promising results in a limited number of relapsed patients with extramedullary myeloma. Nevertheless, the outcome of extramedullary myeloma patients remains exceedingly poor, and innovative strategies are warranted.

Conclusions

The management of extramedullary myeloma is particularly challenging, and important questions relating to its definition, diagnosis, and treatment exist.

Key words

Multiple myeloma, extramedullary myeloma, endovascular therapy