

Non-Secretory Multiple Myeloma with Lytic Bone Lesions about a New Observation

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Abstract

Non-excretory myeloma is a rare variety of multiple myeloma in which classical techniques of research of the stigmata of chronic secretion fail to highlight the monoclonal peak or proteinuria of Bence Jones. Lytic bone lesions are rare in this type of myeloma. We report the case of a patient in whom we confirmed multiple myeloma by bone marrow aspiration and we have classified stage III of Durie and Salmon in view of hypercalcemia, anemia, and lytic lesions observed. However, we could not isolate a secretion of monoclonal immunoglobulin in blood but urinary secretion was evident by proteinuria and urinary light chains. The radiographs of our patient were highly suggestive of osteolysis seen diffuse the practice of sternal puncture has emerged even in the absence of criteria such as blood secretion highlighting the monoclonal peak in serum protein electrophoresis or the quantitation of immunoglobulins. Our case original seen that the diffuse osteolytic lesions were often observed within the secretory disease and rarely in the form of non-secreting.

Keywords: Non-excretory myeloma; Immunoglobulin; Hypercalcemia; Anemia; Lytic bone lesions

Introduction

The non-secreting myeloma was first described in 1958 and presented only 1% of all myeloma [1]. Cereda et al. estimate that by definition, during the non-secretory myeloma any blood or urine immunoglobulin cannot be identified [2]. This has not been retained subsequently and the lack of blood secretion makes retain the form of non-secretory myeloma. We report the case of a 56 years old patient with a non-secretory myeloma and multiple radiological lytic bone lesions.

Observation

56 years old patient with a history of bronchiectasis secondary to recurrent infections since childhood diagnosed in 2002, was admitted for further exploration of a pathological fracture of the humerus. The patient had five months before admission a profound alteration of the overall condition characterized by fatigue, anorexia and weight loss. Bone pain settled secondarily, they were quick and intense predominant in the ribs and arms. The patient had neither headaches, joint pain, fever nor polyuropolydipsia syndrome. The exam found a cachectic patient of 45 kg, height of 1.65 m and BMI of 17 kg/m², conjunctival pallor with a blood pressure of 110/60 mmHg and a heart rate of 90 beats/minute. At the abdominal level, no organomegaly was found and all peripheral lymph nodes were free. The left limb was immobilized because of the fracture with pain when pressure rib bone, the joints were free of mobility and preserved. The patient's neurological examination was without abnormalities. Diagnoses mentioned were either a primary bone tumor including multiple myeloma or bone metastases. Radiological examinations were performed as follows: diffuse osteolytic lesions especially at the X-ray of the arm (Figure 1). Chest radiography showed diffuse osteolytic lesions of ribs and clavicles, parenchymal distension, alveolointerstitial syndrome with bilateral sequelae related to its bronchiectasis (Figure 2). Skull radiography showed gaps in the punch and macrogeodes strongly suggesting multiple myeloma (Figure 3). Laboratory investigations showed an inflammatory syndrome with a sedimentation rate >140 in the first hour, the serum protein

electrophoresis showed a hyper α_2 globulin at 16 g/l, hypo albumin 32.8 g/l, α_1 globulin at 7 g/l, β_1 globulin at 6.2 g/l, a β_2 globulin at 5.5 g/l, and gamma globulin 11.6 g/l without evidence of a monoclonal peak. The count of blood cell lines showed a normocytic normochromic anemia with Hb 10.2 g/dl, MCV 90.1 fl and MCH at 28.7; white elements, platelets and hemostatic parameters were normal. Creatinine was at 103 μ mol/l, serum calcium at 2.7 mmol/l, serum uric acid at 423 μ mol/l and β_2 microglobulin at 7002 μ g/l (normal value <1310 μ g/l). The quantitation of serum immunoglobulins was as follows: IgG = 15.3 g/l (normal value between 6.9 and 16.2 g/l), IgA = 2.5 g/l (normal value between 0, 7 and 3.8 g/l), IgM 0.29 g/l (normal value between 0.6 and 2.6 g/l). As for the urinalysis proteinuria was found at 2.61 g/24



Figure 1: Chest radiograph of the face: sequelae of parenchymal abnormalities and DDB costal and clavicular osteolysis.

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Figure 2: Radiograph of the right arm showing osteolytic bone at the humeral shaft.

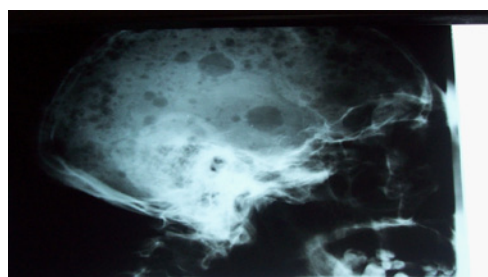


Figure 3: Skull radiograph showing diffuse bone defects of various sizes taking in places the appearance of macrogeodes.

h and urinary light chains >8 mg/dl. The sternal puncture confirmed the diagnosis of multiple myeloma; in fact, it demonstrated 29% of dystrophic medullary plasmocytosis without other anomalies. We have classified the tumor as non secretory multiple myeloma stage III of Durie and Salmon in view of hypercalcemia, anemia, and observed lytic lesions. The patient was transferred to the department of hematology and he is benefiting of classic chemotherapy with sufficient response.

Discussion

Non-secreting myeloma was first described in 1958, and a retrospective study of 869 cases of multiple myeloma conducted in 1975 suggested that the prevalence of non-secretory form was 1% [1]. Our patient had multiple myeloma confirmed by sternal puncture and classified stage III of Durie and Salmon in view of hypercalcemia, anemia, and lytic lesions observed. However, we could not isolate a secretion of monoclonal immunoglobulin in blood but urinary secretion was evident by proteinuria and urinary light chains. Cereda et al. estimate that by definition, during the non-secretory myeloma immunoglobulin any blood or urine cannot be identified [2]. This has not been selected and subsequently the lack of secretion allows blood to retain the form of non-secretory myeloma. The radiographs of our patient were highly suggestive and practice of sternal puncture has emerged even in the absence of criteria such as blood secretion highlighting the monoclonal peak in serum protein electrophoresis or immunoglobulins' quantification. Diffuse osteolytic lesions were often observed within the secretory disease and rarely in the form of non-secreting. A review of the prevalence of bone lesions observed in 33 patients with non-secreting myeloma found that 31 cases had osteolytic lesions in the spine and 4 cases had diffuse bone demineralization [3]. However, nobody has presented a biologically hypercalcemia.

Stimulation by osteoclast activating factor of osteoclasts seems to be the triggering mechanism of bone resorption. Plasmacytic malignant cells secrete a dozen groups of monokines and lymphokine-like molecules secreted by malignant plasma cells independently of secreted immunoglobulins at distance and not only at the bone site [4]. Our case reports a lack of blood secretion by plasma cells while finding the bone lytic lesions, which demonstrates the importance of sternal puncture in front of radiological, also evocative. In about 1-2% of cases of multiple myeloma conventional techniques of immunoelectrophoresis showed no band of serum immunoglobulin [3,4]. These non-secretory myeloma variants appear to be particularly aggressive, with a reported median survival of less than seven and a half years in a series published [5].

The overall poor prognosis of non-secreting myeloma was confirmed by other authors [6-8]. The absence of detectable blood secretion, making monitoring of treatment response more difficult. Hobbs suggests that protein electrophoresis does not detect blood immunoglobulin in myeloma when at least 20 g of tumor is present [6].

The pathogenesis of this lack of secretion has been the subject of much debate. In some cases intracellular immunoglobulins were found by immunofluorescence [9,10], indicating a defect in immunoglobulin secretion rather than production, while in other cases no intracellular immunoglobulin was found [7-10]. Putham and Miyake suggest that malignant cells in some cases synthesize or excrete a pathological immunoglobulin undetectable by conventional techniques [11]. The diagnosis of amyloidosis worn during a non-secreting myeloma raises the possibility that malignant cells can secrete immunoglobulin in quantities too small to be detected by conventional techniques [5]. In vitro, the secretion of small amounts of immunoglobulins has recently been demonstrated in non-secreting myeloma [12]. In our case, the presence of urinary light chains strongly supports the possibility of a tumor secretion even in the absence of blood detection. Other studies using idiotypic antibodies are underway.

Conclusion

Non secreting multiple myeloma is certainly a rare entity, but it remains to mention to any unexplained bone symptomatology. Radiographic abnormalities remain a major contribution to the diagnostic approach and require the use of a sternal puncture; it can only disprove or confirm the diagnosis.

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