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Review article

Multiple Myeloma in a Young Patient : About one Case

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Abstract

Background : Multiple myeloma is a hematologic malignancy, characterized by clonal marrow proliferation of malignant plasma cells. It accounts for approximately 10% of all hematologic malignancies.

The risk of multiple myeloma increases with age, peaking at about 70 years of age and is rarely diagnosed in patients under 30 years of age.

Multiple myeloma in patients under 30 years of age represents 0.3% of all myelomas. We report a case of multiple myeloma occurring in a 19-year-old.

Case presentation: Mr K.T, 19 years old, student. He was referred to us for the management of a chronic anemia Hb= 6 g/dl, VGM= 65 fl, TCMH= 23 Pg, GB= 4.5 G/l, Plq= 235 G/l. The diagnosis of disease was retained on the IMWG 2016 criteria.

Conclusion: Rare before 40 years of age, it never affects children. The clinico-biological and radiological characteristics as well as the therapeutic one of this pathology in the young subject do not present any significant difference compared to the elderly subject.

Keywords : Multiple myeloma, Young subject

Introduction

Multiple myeloma is a hematologic malignancy, characterized by clonal marrow proliferation of malignant plasma cells. It accounts for approximately 10% of all hematologic malignancies [1]. Multiple myeloma represents 47.2% of all hematologic malignancies in Côte d'Ivoire [2].

The risk of multiple myeloma increases with age, reaching a peak at about 70 years of age and is rarely diagnosed in patients under 30 years of age [3].

Multiple myeloma in patients under 30 years of age represents 0.3% of all myelomas [4]. We report a case of multiple myeloma occurring in a 19-year-old.

Observation

Mr K.T, 19 years old, was a student. He was referred to us in the context of the management of a chronic anemia Hb= 6 g/dl, VGM= 65 fl, TCMH= 23 Pg, GB= 4.5 G/l, Plq= 235 G/l.

Indeed, the beginning of the symptomatology goes back to December 2020 by the appearance of neurosensory signs of anemia, he made several consultations during which he benefited from iron-based treatment and transfusions that proved ineffective. The evolution was marked by the persistence of anemia. He was referred to us for further treatment. We did not note any particularity in the history. The clinical examination on admission showed an average general condition (0MS 3), pale conjunctiva without jaundice or IMO.

On the paraclinical level: blood count showed anemia Hb= 7g/dl, VGM= 92.5fl, TCMH=30.3Pg, Plq=88G/l ; WBC= 9.90G/l, Calcemia= 77 mg/l, Urea= 0.35g/l, Creatinine=11mg/l, Serum protein electrophoresis which showed hypoalbuminemia=14.8g/l, Hypergamma globulin=37.7g/l, Beta 2 microglobulin= 2, 89 mg/l,

the myelogram showed 20% of dysmorphic plasma cells and the immunofixation of serum proteins showed the presence of a restricted heterogeneity zone concerning Kappa immunoglobulins G.

This led to the diagnosis of IgG kappa multiple myeloma and the patient was classified as ISS 2. The treatment protocol for our patient is multidrug therapy which is composed of Velcade, Lenalidomid and Dexamethasone.

Discussion

Multiple myeloma is a hematologic malignancy characterized by bone marrow proliferation of an abnormal plasma cell clone secreting complete or incomplete monoclonal immunoglobulin. It represents 1% of cancers and 10-12% of hematological malignancies [5].

The risk of multiple myeloma increases with age. The median age at diagnosis is approximately 62 years for men and 61 years for women [6]. Cases in younger patients are rare, with less than 2% of patients younger than 40 years in most series [7]. Multiple myeloma occurring in patients younger than 30 years is even rarer. 30 years of age is even rarer, our patient was 19 years old at diagnosis, which is what is considered a very rare condition. A study by Bladé et al, conducted on 3278 patients (Mayo Clinic, USA), showed that the frequency of MM in patients under 40 and 30 years of age is 2.2% and 0.3% respectively [7]. The study conducted by the National Cancer Institute (NCI) showed that out of 3815 myeloma patients, only 7 cases are under 30 years of age and thus a frequency of 0.18%. Other studies have looked at MM in young subjects such as Hewell and colleagues who found a frequency of 1% in subjects under 30 years of age and it is even lower in those under 20 years of age [8].

The clinical and biological features are similar to those observed in patients of any age. MM in the reported case was revealed by neurosensory signs of anemia in a context of altered general condition. This is different from the usual revealing modes of MM in young subjects reported in the literature. In the study by Usha and colleagues, out of 14 cases of MM under 40 years of age, 60% presented with spinal pain, low back pain, pelvic inflammatory pain and asthenia [9].

In the same study, immunoelectrophoresis found IgG in 10 out of 14 cases as in our study. Some studies have shown a higher proportion of light chain MM [4].

Radiologically, our patient did not have fractures or multiple geodes at, which does not agree with the literature reporting the frequency of lytic bone lesions in very young patients, especially those younger than 30 years. The study by Usha and colleagues showed bone lysis in almost all cases with femoral and vertebral fractures in 28.5% [9].

The treatment of young patients with MM is not different from that of elderly patients. Young patients with MM may benefit from intensive chemotherapy on the basis of the following

Conclusion

The average age of onset of MM is over 60 years.

Rare before 40 years of age, it never affects children. The clinico-biological and radiological characteristics as well as the therapeutic one of this pathology in the young subject do not present any significant difference compared to the elderly subject, although some reviews of the literature have reported a more marked radiological attack.

Conflict of interest

None

Author contributions

Dr Condé Abdoulaye (MD) : Principal author ; Danho Nanho Clotaire, Dohoma Alexis Silué, M Diakité, B Kouakou, AS Doukouré, M Epoh, RP Botti1, AE Mankpi, KMC Womey, D Ruth, participated in the management of the patient and in the writing of the article ; A Tolo is the pedagogical manager at the clinical hematology department of the CHU of Yopougon participated in the scientific supervision and correction.

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