Journal of Current Hematology & Oncology Research

Case Report

DOI: 10.51271/JCHOR-0004

# A case of malignant melanoma presented with lumbar vertebra fracture

Ahmet Sarıcı[1], İrfan Kuku[1], İlhami Berber[1], Mehmet Ali Erkurt[1], Hilal Er Ulubaba[1], Soykan Biçim[1], Mefkure Durmuş[2], Emin Kaya[1]

[1]*Department of Adult Hematology, Turgut Özal Medical Center, İnönü University, Malatya, Turkey*
[2]*Department of Clinical Pharmacy, Faculty of Pharmacy, İnonu University, Malatya, Turkey*

**Cite this article:** Sarıcı A, Kuku İ, Berber İ, et al. A case of malignant melanoma presented with lumbar vertebra fracture. *J Curr Hematol Oncol Res.* 2023; 1(1): 12-14.

**Corresponding Author:** İlhami Berber, ilhami.berber@inonu.edu.tr

**Submit Date:** 18/01/2023 **Accept Date:** 24/02/2023

## ABSTRACT

Malignant melanoma is a type of skin cancer with a very poor prognosis. It is the most common skin cancer. Metastases are frequently observed in malignant melanoma, which can have a very aggressive course, even without skin findings. Here, we aimed to report a malignant melanoma case presenting with lumbar vertebra fracture, which is a unique form of presentation. A 31-year-old male patient was admitted to the internal medicine outpatient clinic with complaints of low back pain and inability to walk 15 days ago. After the first hour sedimentation value was found to be 101 in the examinations of the patient who came with the complaint of low back pain, he was referred to the hematology department with the preliminary diagnosis of multiple myeloma. Bone marrow aspiration and biopsy was performed. Non-hematopoietic cells were observed in bone marrow aspiration. L2 vertebra fracture was detected in lumbar MRI of the patient with bilateral limitation of movement in the lower extremities. The patient with L2 vertebral fracture was transferred to the neurosurgery service for operation. The patient was diagnosed with malignant melanoma after the frozen biopsy sent after the operation and the previous bone marrow biopsy. Bone marrow infiltration can be seen in malignant melanoma patients. However, a malignant melanoma patient presented with lumbar vertebra fracture has not been reported before in the literature.

**Keywords**: Malignant melanoma, metastasis, vertebral fracture, bone marrow aspiration, atypical presentation

## INTRODUCTION

Malignant melanoma is a type of skin cancer with a very poor prognosis. It is the most common skin cancer. It is the fifth most common cancer in men and women in the United States.[1] In 2015 worldwide, the number of malignant melanoma cases was 351,880, with an age-standardized incidence rate of 5 per 100,000 people per year. And even it is one of the cancer types with the fastest increasing incidence in the world.[2] Malignant melanoma incidence rates remained low and stable in children 0 to 9 years old, while in those aged 10 to 29, the incidence peaked in 2004-2005 and then began to decline.[3]

Metastases are frequently observed in malignant melanoma, which can have a very aggressive course, even without skin findings.[4] Malignant melanoma metastases mainly occur to regional lymph nodes, skeleton and central nervous system. Malignant melanoma can also metastasize to the bone marrow. It has been reported long ago in case series that malignant melanoma can cause bone marrow infiltration with bone marrow aspiration.[5-7] However, a case of malignant melanoma presenting with vertebral fracture has not been reported in the literature so far.

In our case, a patient who was diagnosed with malignant melanoma with bone marrow aspiration and vertebral fracture was presented in our patient who presented with the complaint of weakness in both lower extremities and inability to walk.

## CASE

A 31-year-old male patient was admitted to the internal medicine outpatient clinic with complaints of low back pain and inability to walk 15 days ago. After the first hour sedimentation value was found to be 101 in the examinations of the patient who came with the complaint of low back pain, he was referred to the hematology department with the preliminary diagnosis of multiple myeloma.

The patient had no history of chronic disease. Physical examination revealed weakness, limited range of motion, and pain in both lower extremities. Brucella agglutination tests were negative. HSV, EBV, CMV were negative. Rheumatological markers were found to be negative. IgA, IgG, IgM levels and immune electrophoresis tests in serum and 24-hour urine were within normal limits. The patient's hemoglobin, calcium and kidney function tests were normal. Bone marrow aspiration/biopsy was performed for diagnostic purposes in the patient with low back pain and increased

sedimentation. Bone marrow aspiration/biopsy evaluation revealed cells that were considered to be of non-bone marrow origin. Non-hematopoietic cells were observed in bone marrow aspiration (**Image 1**). Human melanoma black 45 was positive and, S100 and kappa/lambda staining were negative.

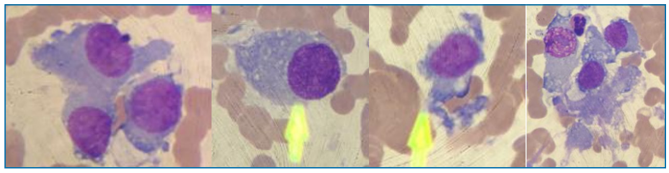

**Image 1:** Non-hematopoietic cells in the bone marrow aspiration

L2 vertebra fracture was detected in lumbar MRI of the patient with bilateral limitation of movement in the lower extremities (Sagittal T1-weighted images are shown in **Image 2**).

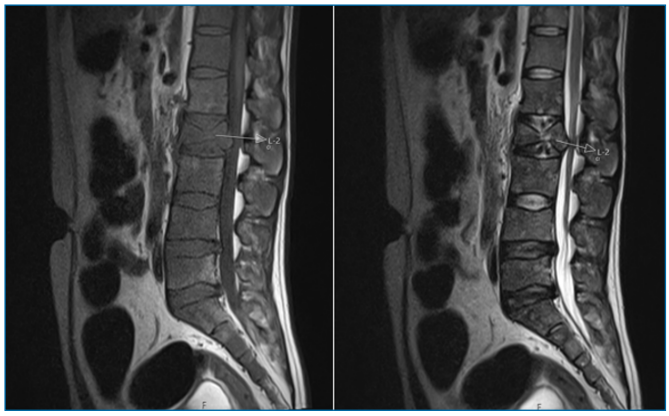

**Image 2:** Lumbar MRI showing lumbar fracture

Coronal CT is shown in **Image 3**.

**Image 3:** Coronal CT

The patient with vertebral fracture was consulted with neurosurgery. The operation was planned. The patient with L2 vertebral fracture was transferred to the neurosurgery. He was diagnosed with malignant melanoma after the frozen biopsy sent after the operation and the previous bone marrow biopsy.

## DISCUSSION

The most important localization of malignant melanoma, which is a malignant tumor of melanocytes and nevus cells, is the skin. Rarely, it may originate from the mucous membranes, meninges, eyes, and internal organs. Although malignant melanoma accounts for approximately 2% of all skin cancers, it is the leading cause of death due to skin cancer.[8]

When malignant melanoma is left untreated, it often metastasizes, resulting in death. On the other hand, if skin melanoma reaches the physician by attracting the patient's early attention, it is mostly eliminated at an early stage and the patient can lead a normal life. Since a significant part of the deaths due to malignant melanoma can be prevented, the correct approach of the relevant branch physicians is important.

Malignant melanoma can usually be eliminated at an early stage if the patient receives the attention of the patient and reaches the physician. In case of delay in diagnosis, it may cause diagnosis at the metastatic stage. malignant melanoma is a tumor with a frequent metastatic tendency. Especially lymph nodes, lung and brain metastases have been reported frequently. Metastases to other organs including the bone, pancreas, adrenal and small intestine have also been reported.

Bone marrow aspiration/biopsy is indicated for the evaluation of unexplained anemia, leukopenia, thrombocytopenia or pancytopenia, diagnosis and staging of lymphoma or solid tumors, fever of unknown origin, suspected mycobacterial, fungal or parasitic infections or granulomatous diseases. The diagnostic importance of bone marrow aspiration/biopsy in malignancies has been reported many times since its introduction as a routine hematological procedure. Neoplastic cells may be found in the aspirated bone marrow with various malignant cells.

In the literature, some rare cases in which malignant melanoma was diagnosed by bone marrow aspiration/biopsy have been reported previously. Basu et al.[6] reported the presence of bone marrow infiltration in 2 malignant melanoma patients. While the first of the cases was diagnosed as primary anal malignant melanoma, the second was diagnosed as tonsillar malignant melanoma. Both cases had their initial diagnosis from bone marrow aspiration/biopsy.

Savage et al.[9] evaluated 112 bone marrow aspirations/biopsies performed for staging purposes in 97 patients with malignant melanoma between 1975-1980. They reported that infiltration was seen in the bone marrow aspiration/biopsy of 5 of the patients.

Rubinstein[6] reported a case where the diagnosis of malignant melanoma was made by bone marrow aspiration.

## CONCLUSION

The peculiarity of the case we have reported is that there are no previous cases of malignant melanoma presenting with vertebral fractures in the literature. In this respect, our case is the first and unique.

## ETHICAL DECLARATIONS

**Informed Consent:** All patients signed the free and informed consent form.

**Referee Evaluation Process:** Externally peer-reviewed.

**Conflict of Interest Statement:** The authors have no conflicts of interest to declare.

**Financial Disclosure:** The authors declared that this study has received no financial support.

**Author Contributions:** All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

## REFERENCES

1. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2019. *CA Cancer J Clin.* 2019;69(1):7-34. doi:10.3322/caac.21551
2. Karimkhani C, Green AC, Nijsten T, et al. The global burden of melanoma: results from the Global Burden of Disease Study 2015. *Br J Dermatol.* 2017;177(1):134-140. doi:10.1111/bjd.15510
3. Paulson KG, Gupta D, Kim TS, et al. Age-Specific Incidence of Melanoma in the United States. *JAMA Dermatol.* 2020;156(1):57-64. doi:10.1001/jamadermatol.2019.3353
4. Gershenwald JE, Scolyer RA, Hess KR, et al. Melanoma staging: Evidence-based changes in the American Joint Committee on Cancer eighth edition cancer staging manual. *CA Cancer J Clin.* 2017;67(6):472-492. doi:10.3322/caac.21409
5. Rubinstein MA. Malignant melanoma diagnosed by marrow aspiration. Acta Haematologica. 1949;2(4):234-237.
6. Basu D, Bhade BA, Ghotekar LH, Mathew T, Dutta TK. Malignant melanoma metastatic to bone marrow. *Indian J Pathol Microbiol.* 2002;45(1):107-109.
7. Velasco-Rodríguez D, Castellanos-González M, Alonso-Domínguez JM, Martín-González M, Villarrubia J. Metastatic malignant melanoma detected on bone marrow aspiration. *Br J Haematol.* 2013;162(4):432. doi:10.1111/bjh.12437
8. Skender-Kalnenas TM, English DR, Heenan PJ. Benign melanocytic lesions: risk markers or precursors of cutaneous melanoma?. *J Am Acad Dermatol.* 1995;33(6):1000-1007. doi:10.1016/0190-9622(95)90294-5
9. Savage RA, Lucas FV, Hoffman GC. Melanoma in marrow aspirates. *Am J Clin Pathol.* 1983;79(2):268-269. doi:10.1093/ajcp/79.2.268