The First Symptom of Acute Myeloblastic Leukemia: Massive Epistaxis

Fulya Özer[1], Soner Solmaz[2], Cüneyt Yılmazer[1]

[1]Department of Otorhinolaryngology and Head-Neck Surgery, Başkent University School of Medicine, Adana, Turkey
[2]Department of Hematology, Başkent University School of Medicine, Adana, Turkey

Abstract

The beginning symptoms in patients with acute myeloid leukemia (AML) can show differences often because of mucocutaneous bleedings and leukemic infiltrations in the extramedullary area. Actually, nose bleeding is not an uncommon beginning symptom. However, these patients can be ignored easily in the emergency room, and serious complications can be seen. A 28-year-old female patient applied to our clinic to remove her nasal packing. Her nasal packing was placed 2 days ago in another clinic for bleeding during examination. Blood sample results showed that the patient had anemia and thrombocytopenia. The result of immunophenotyping was compatible with AML M3. After 1 day, subarachnoid hemorrhage was detected on computed tomography. She had a convulsion, and her saturation decreased. The patient was intubated and accepted as exitus despite cardiopulmonary resuscitation. Epistaxis is a very common onset symptom in AML. However, it is rarely remembered by otorhinolaryngologist. If a young patient without hypertension or other known systemic disease has severe epistaxis after a simple nose examination, blood count and peripheral blood smear must be requested absolutely. Otherwise, it may be too late for the patient, and mortality may be encountered in this case.

Keywords: Epistaxis, acute myeloid leukemia, mortality

INTRODUCTION

Acute myeloid leukemia (AML) is a malignant disease in which the maturation of myeloid, erythroid, and megakaryocytic hematopoietic precursors has ceased in the early stage (1). Discontinuation of the maturation of precursors causes more proliferation of blast cells and less apoptosis. These events also cause anemia with different levels, thrombocytopenia, and changes at the count of leukocytes (2). Leukemia cells can reach and can infiltrate everywhere in the extramedullary area (1, 2).

Skin and mucosal hemorrhages have been seen often in these patients due to thrombocytopenia and dysfunction of thrombocytes (3). Patients refer to the hospital with complaints of weakness, fatigue, and shortness of breath with physical activity in the case of anemia that rapidly progressed in a short time.

The beginning symptoms in patients with AML can show differences often because of mucocutaneous bleedings and leukemic infiltrations in the extramedullary area (3-6). Actually, epistaxis is not an uncommon beginning symptom (1, 2). However, these patients can be ignored easily in the emergency room or in clinics and other internal medicine, and serious complications can be seen.

CASE PRESENTATION

A 28-year-old female patient applied to our clinic to remove her nasal tampons. Nasal tampons were placed 2 days ago in another clinic for bleeding during examination. There was no active bleeding on her nasal examination. However, there was bilateral hemotympanum on her ears. The patient's blood count and coagulation parameters were requested although not routine. After blood was collected in the laboratory, bleeding from the needle entry sites did not cease. Then, the patient was admitted to the intensive care unit.

Blood sample results showed that the patient had anemia, thrombocytopenia, leukocytosis, prolonged bleeding time, and increased international normalized ratio value. It was remarkable that bleeding time was >18 min, and

Cite this article as: Özer F, Solmaz S, Yılmazer C. The First Symptom of Acute Myeloblastic Leukemia: Massive Epistaxis. Eur J Rhinol Allergy 2018; 1: 73-5.

Address for Correspondence: Fulya Özer
E-mail: fdeveci06@hotmail.com

Received: 01.09.2018
Accepted: 02.12.2018
DOI: 10.5152/ejra.2019.37

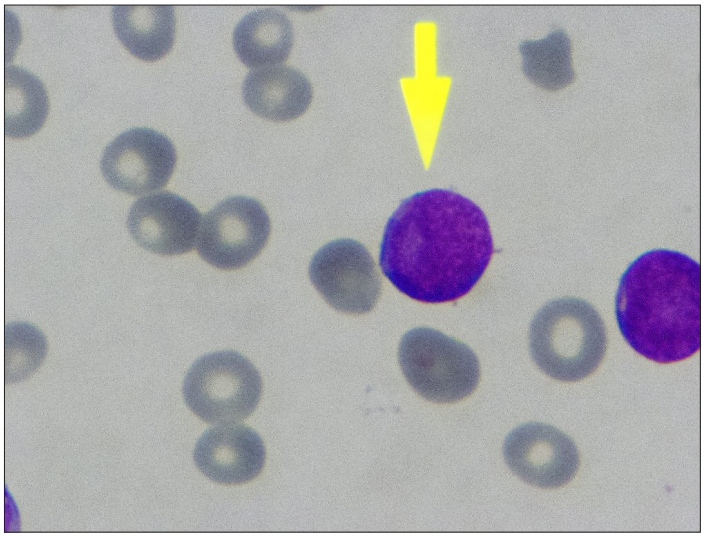

Figure 1. Peripheral blood smear image of the patient (×1000). Many myeloblastic cells (leukemia cells), anisocytosis in erythrocytes, poikilocytosis, and thrombocytes are rarely inadequate

platelet value is approximately 13.000/µl. It can be seen that the baseline leukocyte level in our patient was as high as 10.000/µl. The patient was referred to the hematology department. Peripheral smear was performed for further examination, and acute leukemia panel was studied (Figure 1). Two units of erythrocyte suspension, 1 unit of apheresis platelets, and 2 units of fresh frozen plasma were given for replacement. The result of immunophenotyping was compatible with AML M3. The patient recovered consciousness on day 2 of intensive care. Blood product replacement was continued to the patient. However, her blood values showed a continuous decrease. After 1 day, the patient had unconsciousness, sudden falls, left foot palsy, and temporary aphasia. Subarachnoid hemorrhage was detected on computed tomography. She had convulsion, and her saturation decreased. The patient was intubated. However, the patient had sudden bradycardia, and hypotension could not be reversed. She was accepted as exitus despite cardiopulmonary resuscitation.

Written informed consent was obtained from patient's family who participated in this case.

DISCUSSION

Although AML has been classified according to morphological and cytogenetic properties to determine the risk groups, there is a 30% blast in the bone marrow required for the diagnostic criteria other than M6 and M7 (1,2). Among these groups, M3 is termed acute promyelocytic leukemia (APL) and differs with regard to prognosis and treatment (1). These patients have better prognosis and frequently present with bleeding indications (1, 2). Mucocutaneous bleedings of the gum and nose are common in this group (4, 6). In patients with APL, bleeding is often seen as the cause of disseminated intravascular coagulation rather than thrombocytopenia or platelet dysfunction (6).

Massive epistaxis is one of the emergencies that is seen frequently by otorhinolaryngologist, family physicians, and emergency specialist doctors. It is seen in 10%–12% of the population, and 10% of them require medical treatment (7). Anterior bleedings can be controlled with topical decongestant, anterior tampon, and/or chemical cauterization (7, 8). Endoscopic ligation or embolization of the sphenopalatine artery may be planned for posterior bleeding that cannot be controlled by cauterization or placement of tampon (7).

Systemic disease investigation in a patient with epistaxis must be performed with or immediately after an emergency intervention. However, the physician who intervenes in the epistaxis may avoid this investigation if bleeding ceases. It should not be forgotten that epistaxis is not a disease but a symptom. The reasons must be carefully set and resolved. Kaygusuz et al. (9) observed hypertension in 30% of the 68 patients they admitted with a clinical diagnosis of epistaxis in their clinics. Although hypertension is the most commonly seen reason, 4 (5.8%) patients had hematologic disease.

The patient presented here applied to an otolaryngology clinic with a complaint of nasal obstruction and developed a massive epistaxis on the endoscopic examination performed. She had visited our clinic with her nose tampons. There was no nosebleed complaint before. Unfortunately, we have not been able to ask for bleeding findings, such as other gum bleedings and/or petechiae. In fact, we do not routinely request bleeding parameters from every patient with epistaxis. However, this patient told us that there was too much bleeding in a simple nasal examination, and this situation led us to think of and to direct obtaining her laboratory parameters. Finally, she was admitted in the intensive care unit because of nonstop bleeding when blood was collected from the patient. Although the general rule in the treatment of APL is that the diagnosis must be confirmed at the genetic level, treatment should be initiated without waiting for genetic consequences (1). The primary goal in initial therapy is to prevent coagulopathy and to replace blood parameters. The support products given to our patient did not work after a while; intracranial hemorrhage developed because coagulopathy continued. This situation shows the importance of early diagnosis.

CONCLUSION

Epistaxis is a very common onset symptom in APL, a subtype of AML that can manifest itself with various mucocutaneous hemorrhages due to thrombocytopenia or coagulopathy. However, it is rarely remembered by otorhinolaryngologist. If a young patient without hypertension or other known systemic disease has severe epistaxis after a simple nose examination, blood count and peripheral blood smear must be requested absolutely. Diagnosis should be made as soon as possible, and treatment should be started immediately. Otherwise, it may be delayed, and mortality may be encountered in this case.

Informed Consent: Written informed consent was obtained from patient's family who participated in this case.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - F.Ö. S.S., C.Y.; Design - F.Ö. S.S., C.Y..; Supervision - F.Ö. S.S., C.Y..; Data Collection and/or Processing - F.Ö. S.S., C.Y.; Analysis and/or Interpretation - F.Ö. S.S., C.Y.; Literature Search - F.Ö. S.S., C.Y.; Writing Manuscript - F.Ö. S.S., C.Y.; Critical Review - F.Ö. S.S., C.Y.

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

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

REFERENCES

1. Coombs CC, Tavakkoli M, Tallman MS. Acute promyelocytic leukemia: where did we start, where are we now, and the future. Blood Cancer J 2015; 5, e304. [CrossRef]

2. Anak S, Uysalol E. Akut Miyeloid Lösemi (AML). J OF Pediatrics 2012; 12: 153-8.
3. Farrell AM, Gooptu C, Woodrow D, Costello C, Bunker CB, Cream JJ. Cutenous lymphatic vasculitis in acute myeloid leukemia. British J Dermatology 1996; 135: 471-4. [CrossRef]
4. Swinnen S, van Heerden J, Uyttebroeck A, Boeckx N, Op de Beeck K, Casteels I. A child with bilateral proptosis: A sign of acute myeloid leukemia? J Pediatr Heamtol Oncol 2012; 34: 35-7. [CrossRef]
5. Misuk J, Chi HS, Jang S, Park CJ, Lee JH, Seo JJ. Acute Promyelocytic Leukemia presenting with Central nervous system involvment: A report of 2 cases. Korean J Lab Med 2011; 31: 9-12. [CrossRef]
6. Suriya OM, Aleem A. Frank hematuria as the presentation feature of acute leukemia. Saudi J Kidney Dis Transpl 2010; 21: 940-2.
7. Traboulsi H, Alam E, Hadi U. Changing Trends in the Management of Epistaxis. Int J Otolaryngol 2015; 7. [CrossRef]
8. Akıner M, Beton S. Epistaksis. Ear Nose Throat Disease and Head Neck Surgery. Editor; Gerçeker M. Nobel Tıp Publishing, Ankara, 2014: 419-31.
9. Kaygusuz İ, KarlıdağT, Keleş E, Yalçın S,Alpay HC, Sakallıoğlu Ö. Hastaneye Yatırılarak Tedavi Edilen 68 Epistaksisli Hastanın Retrospektif Analizi. Fırat Med J 2004; 9: 82-85.