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Massive bleeding post tooth extraction diagnosed with acute myeloblastic leukemia: A case report

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Abstract
Extraction may present risks and complications like any another dental procedure. It is a surgical procedure that represents a great challenge for the hemostatic mechanisms of the organism for several reasons. Considering the many possibilities of post-extraction bleeding, preventing hemorrhage is the best way to avoid complications. Sometimes patients with an unknown history makes our simple procedures difficult and complicative. The correct diagnosis and treatment of these patients depend on the knowledge of normal hemostasis mechanisms and the results of laboratory tests that evaluate these mechanisms. The present paper reports the case of a patient whose promyelocytic leukemia was diagnosed after hemorrhage resulting from the simple extraction a tooth.

Keywords: Occurrence, leukemia, extraction, complication

Introduction
Extraction is a routine procedure in dental practice. However, it may present risks and complications like any another dental procedure [1]. Extraction is a surgical procedure that represents a great challenge for the hemostatic mechanisms of the organism for several reasons: facial tissues are highly vascularized; the surgical wound is open in soft and (bone) tissue; it is nearly impossible to perform an effective tamponment during surgery; the tongue causes constant displacement of the blood clot; and salivary enzymes may lyse the blood clot before the growth of granulation tissue [2]. Considering the many possibilities of post-extraction bleeding, preventing hemorrhage is the best way to avoid complications. One of the most important procedures is a careful history taking to collect information on any previous[3] history of bleeding episodes occurred with the patient and/or family, the use of medication that interferes with coagulation, coagulopathies, and specific systemic diseases, such as arterial hypertension, liver diseases and leukemia. Dentists should always be on guard to observe any unusual clinical signs that may lead to the early diagnosis of systemic disease processes [3, 4]. Leukemia is a malignant disease that attacks leukocytes. It begins with a malignant transformation of a stem cell from bone marrow that reproduces and finally reaches the patient's periferic blood. Problems start when leukemia cells become more numerous than normal cells and erythrocyte precursor cells [5]. The disease may be acute or chronic, according to its clinical course. Acute leukemia affects immature cell lineages or blastic cells and, when not diagnosed and treated, results in rapid debility of the individual's general condition. The diagnosis of leukemia is established, through a myelogram, by the presence of more than 25% of leukemic cells on a bone marrow aspirative on puncture [6]. The present paper reports the case of a patient whose promyelocytic leukemia was diagnosed after hemorrhage resulting from the simple tooth's extraction.

Case Report
A patient 48-year elderly male with no medical history came with a chief complaint of profuse bleeding after extraction of left lower first molar one day before. He went to the local hospital in the same evening where the socket was sutured but bleeding persisted. On intraoral examination the bleeding was persistent from the minor spaces from sutures and socket. The colour of blood was watery red and viscosity was very thin. The clot which was present was not in a proper jelly from but was like a blood soaked in foam.

Tight Sutures were applied to close the socket properly. Tranexamic Pack was kept on the socket and patient was advised to bite it tightly for a period of at least one hour. Intravenous Revici was also administered. Due to different nature of the blood Bleeding time, Clotting time, Prothrombin Time, Platelet Count, ESR and Hemoglobin levels were advised. All the parameters were in normal range except Hemoglobin percentage which was 8.7 g/dl. With a doubt complete blood picture was advised to be taken for further diagnosis to provide a prompt management. The blood picture was severely disturbed with extremely high total count of 2, 77, 470 cells/cumm which is more than 30 times of the normal range. Other abnormal parameters were RBC- 3.4 million/cumm, HCT- 27.7%, MCHC- 31.40%, Red Cell Distribution Width- 20.1%, Lymphocyte- 7%, Basophils- 7%, Blasts- 5, Promyelocyte- 1, Myelocyte- 6, Metamyelocyte- 16, Band Forms- 6. The Blood Report is shown in below figure. On this investigation grounds he was diagnosed with Leukemia. Luckily the bleeding arrested after the Tranexamic gauze was removed after one and half hour.

Hematology

Test Name	Result Value	Reference Range	Method
Hb	8.7 g/dl	14.0 - 16.0	Automated Cell counter
HCT	27.7 %	40-54	Automated Cell counter
RBC Count	3.4 million/cumm	4.5 -5.5	Automated Cell counter
TC	277470 cells/cumm	4000 - 11,000	Automated Cell counter
Neutrophil	51 %	40-75	Automated Cell counter
Lymphocytes	7 %	20-40	Automated Cell counter
Eosinophils	1 %	1-6	Automated Cell counter
Basophils	7 %	0-1	Automated Cell counter
Blasts	5	-	
Promyelocyte	1	-	
Myelocyte	6	-	
Metamyelocytes	16	-	
Band forms	6	-	
MCV	81.70 fl	77-87	Automated Coagulometer
MCH	25.70 pg	25-35	Automated Cell counter
MCHC	31.40 %	32-36	Automated Cell counter
Red Cell Distribution Width	20.1 %	11-13.5	Automated Cell counter
Platelet Count	296000 cells/cumm	150,000-400,000	Automated Cell counter
ESR	8 mm 1st hr	0 -15	VESMATIC
Test (PT)	13.80 sec	11-15	Automated Coagulometer
Control (PT)	10.7 sec	-	Automated Coagulometer
INR	1.30 -	-	Automated Coagulometer

Fig 1

Discussion

Patients with a history of hematoma or hemorrhage are a frequent problem in emergency rooms. The correct diagnosis and treatment of these patients depend on the knowledge of normal hemostasis mechanisms and the results of laboratory tests that evaluate these mechanisms. Procedures performed in the oral cavity, especially those that may cause bleeding, represent major risk to patients suffering from hemostatic disorders. The type of leukemia diagnosed is related to the age prediliction of patients. The incidence of leukemia is higher in males than in females. The most common manifestations of leukemia are lymphadenopathy, laryngeal, gingival bleeding, oral ulceration, and gingival enlargement. Fever was the most common symptom in patients with all types of leukemia. Platelet counts from 25,000 mm-3 to 60,000 mm-3 are at sufficiently low levels to result in

spontaneous bleeding. Most of the patients had WBC counts of greater than 10,000 mm-3. Only 12.6% of patients had normal WBC counts [7, 8]. It is important to emphasize that most minor bleeding that occurs after oral surgery may be related to local factors dependent on the integrity of the closest anatomic elements. However, severe bleeding after oral surgery related to hemostatic systemic problems, such as liver diseases and hypertension [9]. Hemostatic problems represent a complete interaction between blood vessels, platelets and the plasma coagulation system. These hematological impairments are classified according the stage of coagulation that is affected, as follows: primary hemostatic disorder (responsible for the formation of the plate thrombus) and secondary hemostatic disorder, dependent on the plasmatic proteins and coagulation factors [10]. Thus, if hemorrhage occurs immediately after a traumatism or a surgical procedure, it is a disturbance of the primary hemostasis. This type of hemorrhage is superficial and involves the oral mucosa, skin and nose, manifesting clinically through petechia, ecchymosis or purple lesions. Local treatment is usually satisfactory with immediate responses. Nevertheless, IF hemorrhage lasts for hours or days, it represents an alteration in the secondary hemostasis, involving deeper zones such as joints, muscles and retroperitoneal spaces. It manifests clinically through hematomas and the treatment requires systemic therapy [11]. In the case reported, hemorrhage began a few hours after extraction, local treatment had no success and hematomas were observed in the cervicofacial region, characterizing a picture of secondary coagulopathy. Secondary hemostatic disorders may be also divided into two groups: 1) congenital alterations, which include hemophilia a, hemophilia B and Von Willebrand disease, and 2) acquired alterations, including vitamin K metabolism disturbances, liver diseases and intravascular disseminated coagulation, 9 the last of these having been developed by the patient in the present study. According to Funayama *et al*. [12], the obstruction of the airways is a rare consequence of post-extraction bleeding. However, in the case reported the patient developed severe dyspnea, requiring protection of the airways which was achieved only by means of a tracheostomy. The airways, breathing and circulation must be reestablished as rapidly as possible, as this is the first step towards the patient's clinical stabilization. Uncontrollable intra-oral hemorrhage may lead to the rapid obstruction of the airways, as well as hematomas expanding into cervical region or the accumulation of blood in the airways [13]. In view of this, maintaining the permeability of the airways and the attempts at hemostasis became priorities from the moment that the patient developed dyspnea due to the hematomas in the submandibular, sublingual and sub mental regions. According to Suchman & Mushlin [14], it is inappropriate to request routine laboratory tests prior to surgery in patients without medical history of coagulation disorder. However, it is possible that some patients that have no bleeding history and even those submitted to previous extractions without complications may develop the disease asymptomatically, being diagnosed only[13]after some serious complication results in the patient's death, as in the case reported. The patient had been admitted with ecchymosis on the lower and upper limbs that had been overlooked unnoticed by himself and by the professional who performed the extraction. Considering from the above, it is concluded that a simple extraction may result in serious complications, especially when an adequate history taking is not performed and the necessary laboratory tests are not requested. Patients may present coagulation disorders whether asymptomatic or acquired, after a previous surgical procedure, leading to serious complications and consequently to the diagnosis of these hematological disorders.

Conclusion

We must consider every dental procedure related to blood in a very conscious way, as the underlying condition of the patient may have some or the other systemic abnormality which can cause problems in management. So, we suggest to go for a proper evaluation and basic investigations of patient before going for any procedure to rule out the underlying disease and reduce complications to increase the quality of life of patients.

References

1. Goldberg MH, Nemarick AN, Marco WP. Complications after mandibular third molar surgery: a statistical analysis of 500 consecutive procedures in private practice. J Am Dent Assoc. 1985; 111:277-35.
2. Peterson LJ, Ellis E, Hupp JR, Tucker MR. Contemporary Oral and Maxillofacial Surgery. St. Louis. Mosby, 2005, 800.
3. Gleeson P. Spontaneous gingival haemorrhage: case report. Aust Dent J. 2002; 47(2):174-5.
4. Gillette WB. Re: Oral manifestations of acute myelomonocytic leukemia: a case report and review of the classification of leukemias. Wu J, Fantasia Je, Kaplan R. 2002; 73:664-668. J Periodontol. 2002; 73(10):1228.
5. Neville BW, Damm DD, Allen CM, Bouquot JE. Hematologic disorders. In: Oral & maxillofacial pathology. Philadelphia: Sauders, 2004, 416-42.
6. Epstein JB, Stevenson-Moore P. Periodontal disease and periodontal management in patients with cancer. Oral Oncol. 2001; 37(8):613-9.
7. Hou GL, Huang JS, Tsai CC. Analysis of oral manifestations of leukemia: a retrospective study. Oral Dis. 1997; 3(1):31-8.
8. Quintero Parada E, Sabater Recolons MM, Chimenos Kustner E, López López J. Hemostasia y tratamiento odontológico. Av. Odontoestomatol. 2004; 20-5:247-261.
9. Bermudo Añino L, Gutierres JL. Manejo del paciente con trastornos hemorrágicos. En: Bermudo Añino L, Palma Gómez de la casa A, editors. Tratamiento del paciente odontológico con hemopatías. Madrid: Glaxo-Smith-Liline Intigraf, 2001, 39-54.
10. Joseph R. Introducción a los trastornos hematológicos. En: Roce L, Kaye D, editores. Medicina interna en odontología. Barcelona: Salvat, 1992, 343-8.
11. Cutando A, Gil-Montoya JA. El paciente dental con alteraciones de la hemostasia. Revisión de la fisiopatología de la hemostasia para odontólogos. Med Oral. 1999; 4:485-93.
12. Funayama M, Kumagai T, Saito K, Watanabe T. Asphyxial death caused by postextraction hematoma. Am J Forensic Med Pathol. 1994; 15(1):87-90.
13. Moghadam HG, Caminiti MF. Life-Threatening Hemorrhage after Extraction of Third Molars: Case Report and Management Protocol. J Can Dent Assoc. 2002; 68(11):670-4.
14. Suchman AL, Mushlin AI. How well does activated partial thromboplastin time predict postoperative hemorrhage? JAMA. 1986; 256(6):750-3.