30 درصد تخفیف نوروزی ویژه کارگاه‌ها و فیلم‌های آموزشی

اصول تنظیم قراردادها

پروپوزال نویسی

آموزش مهارت‌های کاربردی در تدوین و چاپ مقاله
A Case of Thrombocytopenia due to Odontogenic Infection

Dinesh Kumar Verma1* • Ritesh Rajan1

1Reader, Department of Oral and Maxillofacial Surgery, Sharad Pawar Dental College and Hospital, Sawangi, Wardha, Maharashtra, India
*Corresponding Author; E-mail: dineshverma@yahoo.com

Received: 1 May 2011; Accepted: 20 August 2011
This article is available from: http://dentistry.tbzmed.ac.ir/joddd
© 2011 The Authors; Tabriz University of Medical Sciences
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/3.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract
Thrombocytopenia in surgical patients is a potentially serious condition, faced by surgeons. A close relationship between sepsis and thrombocytopenia has been suggested. Thrombocytopenia has even been suggested to be indicative of an acute infection. Platelet count in a septicemic patient may also serve as a prognostic tool. There are many reports of thrombocytopenia due to septicemia in the literature but the occurrence of thrombocytopenia in maxillofacial infections is rare. Thrombocytopenia in a patient with odontogenic infection presents unique diagnostic and management challenges. A case report of an adult male patient with odontogenic infection, who developed life-threatening thrombocytopenia, is presented.

Key words: Thrombocytopenia, odontogenic infections, sepsis.

Introduction
Odontogenic infections can cause life-threatening complications, such as cavernous sinus thrombosis, mediastinitis, aspiration pneumonia and septicemia. Coagulation abnormalities, ranging from thrombocytopenia to a fulminant state of disseminated intravascular coagulation (DIC), are well recognized in ICU patients with septicemia. The incidence of thrombocytopenia in ICU patients ranges from 15% to 58%, depending on the type of population and the threshold used to define thrombocytopenia.1 It has been suggested that thrombocytopenia reflects the severity and progression of the underlying infection, and may serve as an indicator of acute infection.2-4 It can also serve as a prognostic indicator.5-7 Although thrombocytopenia, in the critically ill, is not a disease process per se, it may increase mortality in several ways. It can result in a mild, moderate, or severe hemorrhagic disorder, which could enhance the risk of morbidity and mortality in critically ill surgical patients.

Case report
A middle-aged male patient reported to the Emergency Department of Sharad Pawar Dental College and Hospital, Wardha, with a complaint of pain and swelling over left side of the face, left upper neck, pyrexia and trismus. The patient gave a history of continuous, low-grade throbbing pain in relation to the left mandibular first molar of a two-month duration with exacerbation of symptoms over the week prior to presentation. The episode was immediately followed by swelling over the left cheek, pyrexia and trismus, which rapidly progressed to involve the left infraorbital and submandibular regions. The patient had been successfully treated for pulmonary tuberculosis 20 years back with antituberculosis drugs. Apart from that, the patient did not have any other significant dental, medical, drug or family history.

On examination, the swelling was tender, warm, tense and extended over the left cheek, left infraorbital and left submandibular regions. There were no draining sinuses. The patient also had trismus (interincisal mouth opening of 10 mm). The mandibular
PT and aPTT were found to be within acceptable limits. Although there was no active bleeding from any of the wounds, 4 units of platelet concentrate and 1 unit of whole blood were transfused to reduce the risk of fresh bleeding. On the eighth day, the platelet count showed a further drop to 38000/µL; however, the total leucocyte count was 10000/mm³. Four extra units of platelet concentrate and 1 unit of whole blood were transfused. Despite falling platelet counts, patient’s general condition and the wound showed consistent improvement. The development of alloantibodies to platelets was suspected, for which, prednisolone 100 mg IV b.d. was instituted, which was administered for 5 days. Further platelet transfusions were withheld.

From the tenth day on, platelet count showed a steady improvement. The patient was discharged on the fifteenth day with platelet count of 174000/µL, total leucocyte count of 8000/mm³ and healed wounds. Four months later, the patient reported to the Department of Oral and Maxillofacial Surgery for extraction of right maxillary first molar. Basic hematological and cell count screening did not reveal any abnormalities. Extraction was carried out and the post-operative period was uneventful.

**Discussion**

Septicemia is a potentially lethal condition associated with a mortality rate of 52–60% in severe sepsis and 55–66% in culture-negative severe sepsis. The characteristics of different stages of sepsis are:

1. **Stage I**—Systemic Inflammatory Response Syndrome (SIRS). Two or more of the following:
   1. temperature more than 38°C or less than 36°C
   2. heart rate more than 90/min
   3. respiratory rate more than 20/min
   4. white blood count more than 12000/mm³ or less than 4000/mm³ or presence of more than 10% of band cells

2. **Stage II**—Sepsis. SIRS with a culture-documented infection

3. **Stage III**—Severe sepsis. Sepsis with organ dysfunction, hypotension, or hypoperfusion (lactic acidosis, oliguria, hypoxemia or acute alteration in mental status)

4. **Stage IV**—Septic shock. Hypotension (despite fluid resuscitation) with evidence of hypoperfusion

Sepsis can be caused by any microorganism. However, patients with clinically suspected sepsis, but without positive culture documentation, are at equally high risk of death. Early diagnosis and aggressive treatment is important because patients with...
sponds. Patients who are actively bleeding, who require an invasive procedure, or who are at risk of bleeding complications (post-operative patients) should undergo platelet transfusion.\(^5\) In a hemorrhagic patient, the platelet count should be kept in the range of 50000-70000/µL.\(^6\) Discretion should be exercised in administering multiple platelet transfusions because of the development of alloantibodies.\(^7\) Finally, the number of platelet units to be transfused should be determined in a case-specific manner.

**Conclusion**

Thrombocytopenia increases the risk of bleeding, alters the plan for care and may serve as an indicator of severity of infection. In patients with severe infection, the platelet count may help monitor the progression of disease.

**References**


درصد تخفیف نوروزی ویژه کارگاه‌ها و فیلم‌های آموزشی

اصول تنظیم قراردادها

پروبیوزال نویسی

آموزش مهارت‌های کاربردی در ندوین و چاپ مقاوم