CASE REPORT

Self-Inflicted Intraoral Hematoma in a Cardiac Patient Receiving Oral Anticoagulant Therapy- A Case Report

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Abstract:

Intraoral hematoma secondary to systemic anticoagulant therapy is rare, but it is a potentially fatal condition requiring immediate medical management. *Case report:* Here we report a case of self-inflicted hematoma in the anterior maxillary gingival region in a 65year old female cardiac patient who was on systemic anticoagulant therapy with a poor periodontal condition, manifesting as a periodontal swelling for a period of one week. Oral anticoagulant therapy is considerably imperative to prevent thromboembolic complications in various medical conditions, in such patients there are chances for spontaneous bleeding or hematoma by means of minor trauma due to sharp teeth or dental prosthesis in the mouth leading to life threatening complications such as partial or complete airway blockage. Therefore,directives about possible bleeding complications secondary to anticoagulant drugs in the oral cavity and the importance of maintaining oral health hygiene are necessary for the patient.

Keywords: Intraoral Hematoma, Oral Anticoagulant Therapy

Introduction:

Hematoma is a collection of blood which has leaked out from the blood vessels into the surrounding tissue space, it can occur in any organ of the body. When a pouch of blood forms in the extravascular space of the oral cavity the condition is called oral hematoma. Oral tissues are commonly affected because of unrecognised oropharyngeal trauma by masticatory forces that can lead to enormous hematomas within any part of the oral cavity, making the normal physiological functions difficult to perform. Sublingual hematoma is a potentially fatal condition and a medical emergency as it leads to partial blockage of airway. The genesis of hematomas are often secondary to accidental bites in the context of an episode of syncope or convulsive crisis or trauma by sharp cusps or dental prosthesis. Oral hematomas are self-resolving, but may take a few days to weeks for complete resolution. However, if the lesion is large, it can compress nearby tissues and nerves leading to pain. Such episodes are especially reported among patients with inborn coagulation disorders or patients on regular systemic anticoagulant therapy for various systemic diseases, such as mechanical valve replacement in rheumatic heart disease, deep venous thrombosis, pulmonary embolism and cerebral venous thrombosis. Estimated annual incidences of bleeding rates are 0.6% for fatal bleeding, 3% for major bleeding, and 9.6% for minor bleeding [1, 2]. Here we report a case of self-inflicted intraoral hematoma in a cardiac patient, on anticoagulant drugs with poor periodontal health and the condition was found to be the result of an elevated International Normalized Ratio (INR). We also stress on importance of the interdisciplinary approach for the management of intraoral

hematoma and prophylactic dental considerations for all patients who are on anticoagulants to reduce the risk of oropharyngeal hematoma and its consequences.

Case report:

A 69 year old female patient reported with a complaint of painful swelling in the upper front region of the jaw for one week duration. On history of presenting illness, patient was apparently well till the week when she developed slight irritation because of food lodgement in the upper front gingival region and made an attempt for the removal of food with a metal pin. Immediately there was profuse bleeding and developed a swelling in the same region associated with intermittent oozing from the swelling along with mild pain and discomfort during chewing, speaking and closing the mouth. There was no change in the size of the swelling since one week and no history of pus discharge from the region. Patient did not consult any doctor and reported to us for further management. On medical history patient was suffering from ischemic heart disease, hypertension, renal disease (grade I renal parenchymal disease and bilateral renal cortical cyst) and type II diabetes mellitus for the previous two years. Her 2D Echocardiography report revealed ischemic heart disease with dilated left ventricle, akinesia of distal inferior wall, aneurysms of apicolateral wall and apex, reduced left ventricular systolic function and grade I mitral regurgitation. Patient was on the following medications: Amlodipine 10mgs/day, Clopidogrel 75mg/day, Acitrom 4mg/day, Frusemide 40mgs/day, Atorvastatin 20mg/day, Amiodarone 200mg/day, Injection Mixtard 10units/day.

On extraoral examination, diffuse swelling measuring about 3x3cm was present in the middle third of the face involving the maxillary region extending superoinferiorly from lower border of nose to upper lip. Medially from the line joining ala of the nose to the upper lip margin and laterally from the midline of the left nostril to upper lip margin, the skin over the swelling was slightly stretched with no surface changes.

On Intraoral examination, patient's mouth was filled with blood clots and there was a well-defined sessile, non-pulsatile swelling of size 3x3cms present in the maxillary anterior region anteroposteriorly extending from the labial vestibule to the gingiva of 11, 12, 13 and 21 and superoinferiorly from the labial vestibule of 11, 12 and 21 to the incisal one third of the same teeth. The swelling was reddish purple in color, with smooth surface and no pulsations were noticed, the mucosa around the swelling was erythematous and sinus opening was noticed on the medial aspect of the swelling. On palpation, the swelling was free from labial mucosa, soft in consistency fluctuant in the centre, attached to the underlying mucosa, tender and with no pus discharge. Bleeding was elicited on slight touch, but no pulsations were felt and diascopy test was negative suggestive of hematoma.

On examination of teeth, grade II mobility was present with respect to11, 12 teeth, they were tender on palpation and percussion. Alveolar bone around these teeth was normal. Based on the history, clinical findings and hematologic reports, intraoral hematoma of the maxillary anterior gingiva secondary to trauma was considered as provisional diagnosis, because patient was a known case of cardiac disease, was on anticoagulant therapy (Tab. Acitrom 4mg/day) for the previous two years and there was a history of self-inflicted injury by a sharp object in the same region which was followed by abrupt development of swelling (Fig 1).

Patient was subjected to intraoral periapical radiograph with respect to 11,12 and 21 panoramic radiograph and maxillary occlusal radiographic examinations that revealed no significant findings except for gross attrition of all the teeth and especially with 11,12 and 22, infected root stump with respect to 21 with associated severe interdental bone loss (Fig.2). On hematological investigations, there was elevated International Normalized Ratio (INR)of 6.15, increased Prothrombin Time (PT) of 46 seconds, Partial Thromoplastin Time (PTT) was 63.8 seconds and the platelet count was 1.87 lakhs/ cmm and other hematological reports were within normal limits.

Fig. 1: Oral Hematoma in the Maxillary Anterior Gingiva

The patient was taken for physician's consultation and discussed about the treatment plan for control of bleeding. Patient was put on Injection Vitamin K 10mg once daily, Injection Amoxicillin1000mg and Clavulanic acid 200mg, twice a day and Injection Metronidazole 500mg three times a day for 5 days and no changes were made with her regular cardiac and diabetic medications.

Fig. 2: Maxillary Occlusal Radiograph showing Interdental Bone Loss

Fig. 3: Resolution of Intraoral Hematoma after 5 Days

Since the cardiac status warranted the continued use of anticoagulants and the site of bleeding did not compromise the airway, considering these facts antiplatelet and anticoagulant drugs were continued in spite of bleeding and systemic vitamin K 10mg injection was adequate to achieve

hemostasis. During this period, the patient was hospitalized for close monitoring and no active surgical intervention was done during the period of hospitalization and was continued with the regular medications. On the fifth day of hospitalization, we noticed partial resolution of hematoma. There was reduction in periodontal infection and inflammation as seen in the Fig.3 and INR level had come down to 3.53. So the patient was discharged on the 6th day as there was resolution of symptoms and recalled after one week for follow up.

Discussion:

Oral anticoagulant drugs are vitamin K antagonists, and there are several recognized indications for the use of these drugs for the treatment of deep venous thrombosis, pulmonary embolism, vascular thromboembolism, mechanical valve replacement, cerebral venous thrombosis, certain hypercoaguable states, transient ischemic attack and cerebral ischemia (ischemic stroke) secondary to atrial fibrillation etc[3].

Their efficacy has been recognized well, but there are several limitations such as narrow therapeutic index, considerable variability in dose response among patients due to genetic and other factors, differences in their pharmacokinetic properties and numerous drug and food interactions make their use quite challenging[3]. Nevertheless, they remain the mainstay of oral anticoagulation therapy and commonly used drug is the Warfarin by many physicians, but Acetrom an acenocoumarol offers several benefits over warfarin, such as: more rapid onset of action, shorter half-life offers better stability of prothrombin time, rapid reversal of anticoagulant action, with relatively smaller dose of vitamin K, less dependence on CYP2C9 enzyme for metabolism [4]. Even an observational study conducted to evaluate the treatment quality with acenocoumarol versus warfarin reported that patients receiving acenocoumarol achieved better INR stability in terms of longer time in therapeutic INR range than those receiving warfarin[5]. Hemorrhagic complications of warfarin therapy are well known and several reports are found in the literature compared to acetrom induced bleeding complications. In our case the patient was on acetrom and INR was moderately increased and prothrombin time was 46 seconds and hematoma was also less severe and more localized.

The dose titration of anticoagulants are imperative to maintain the INR between 2-4 to prevent the complications related to coagulation, because INR<2 leads to thromboembolism and INR>4 is associated with hemorrhagic complication. It is always important to investigate INR in dental patients who are on anticoagulant drugs before proceeding with dental treatment.

The novel oral anticoagulants (NOACs) are developed with more pharmaco kinetic pharmaco dynamic relationships. They are direct thrombin and factor Xa inhibitors, and the effects of NOACs are easily predictable, with lesser inter and intra-patient variations, and also have lesser interactions with food and other drugs. Earlier studies have demonstrated relatively lesser incidence of major bleeding events with use of NOACs, this eliminates the need of PT and INR monitoring with any modification in the medication profile of the patient [6].

The management of intraoral hematoma depends on the severity of the condition and patient's INR range, only slight or no modifications of anticoagulant regimen are required. Here the main goal was to minimize the hematoma by restoring the haemostatic system to acceptable levels and maintaining hemostasis by local and adjunctive methods. The consultation of patient's physician

for anticoagulant dose modification is at most an important factor in such patients.

Dental considerations of patients on anticoagulant drugs:

Consultation of patients physician should be done before commencing any dental procedures, blood investigations like INR, PT, APTT, CT, BT and Platelet Count, planning of the dental treatment in the beginning of the day, preventive and precautionary measures during local anesthesia injections should be prepared for any unpredicted emergency as it is utmost importance for possible local haemostatic measures by reducing trauma to tissues, avoiding analgesics, as some have an effect on coagulation. Oral health education to prevent periodontal diseases as they in turn may cause irritation or pain that provokes the patient to pierce the interdental region. So precaution should be taken when using sharp instruments for removing food debris, smoothening of sharp cuspal edges or correction of ill fitting dental prosthesis.

Conclusion:

Dentists must be aware that anticoagulant drugs may pose a serious complication on oral soft tissues and if patients report with such hematomas with spontaneous bleeding, the systemic drug history should be explored and queried about any previous unusual bleeding episode in other parts of the body. Emergency treatment should be planned by consulting the patient's physician, as intraoral hematomas may cause partial or complete blockage of airway and may lead to life threatening complications.

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