Intraoral Hematoma Formation Following Infusion Of Streptokinase In The Treatment Of Myocardial Infarction

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Abstracts: A 65 year old female with recent inferior wall MI underwent an intravenous streptokinase infusion in an attempt to re-establish coronary reperfusion. Although the cardiac catheterization and streptokinase infusion were technically uncomplicated, an intraoral hematoma was found in the buccal mucosal oral cavity three hours following the procedure. The case was successfully managed with local therapy. [Reddy M NJIRM 2014; 5(2) :133-135]

Key words: intraoral hematoma, local therapy, streptokinase

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Introduction: Hematoma is defined as an effusion of blood into the surrounding tissues as a result of torn blood vessel[1]. It is also referred as a localized swelling with collection of blood in a tissue or an organ.[2] It can manifest as a swelling, echymosis or as petechiae. Most of the times the etiology is related to trauma or injury, unless otherwise specified. Traumatic echymosis is said to be common on lips and face, yet uncommon in oral mucosa[3]. Excessively traumatized capillary bed extravasates blood into the perivascular connective tissue and the lesion may assume a brown coloration once hemoglobin is degraded to hemosiderin.

Intraoral hematoma has been documented in conditions such as tongue lacerations, as a complication of extraction, in presence of severe hypertension, during surgical implant placement or as a complication of anticoagulant therapy[4].The use of fibrinolytic agents for myocardial infarction (MI) causing intraoral hematoma as a complication of it has not been documented so far in the literature. Hence we report such a case and its management.

Case Report: A 65 year old female admitted in Intensive Care Unit (ICU) of a multispeciality hospital of Dhule district, Maharashtra, India, complained of bleeding from the oral cavity. An oral and maxillofacial surgeon was consulted.

Intraoral examination revealed a 1.5-2inch diameter swelling in the left buccal mucosal area between the maxillary and mandibular second and third molars. It appeared dark brown to black in color. On palpation the swelling was soft, smooth, fluctuant in consistency with lobulations (Fig 1).

There was no history of trauma or injury. Past medical history revealed admission of the patient for the treatment and thrombolization of inferior wall MI using streptokinase. Patient reported with bleeding in the oral cavity within three hours after the procedure. Her medical records revealed no adverse outcomes with the thrombo-embolisation procedure which took around 45-60 minutes with patient stabilization. Based on the clinical findings a diagnosis of intraoral hematoma was arrived at.

As the usual the treatment of hematoma consists of intermittent pressure pack application using moistened sterile gauze for around 15-20 minutes followed by periodic observation for 48hours, the same was done in this case also.

Fig 1. View of intraoral hematoma

Examination after 48 hours revealed an increase in the size of the lesion with increased bleeding which was not anticipated. Now a thorough detailed investigation was carried out which included examination of any irritating factor in the near viscinity. There were no sharp cusps or any evidence of factors that aggravated bleeding and increased the size of swelling. This time bleeding

was controlled with pressure pack using local hemostatic agents (hemocoll). Hemocoll consists of fibrillar collagen that is commonly used as a hemostatic agent for control of bleeding wounds. Along with this the patient was advised to be on liquid diet for first three days (72hrs), in order to avoid chewing of food from that side. Meanwhile care was taken to avoid interference of cheek mucosa with buccal surfaces of the teeth. In between the lesion was swabbed with betadine antiseptic solution regularly. The lesion started reducing in size after 2-3 days(Fig 2).

Fig.2.decreased size of the hematoma

For the next 48 hours she was put on a soft diet. The lesion took a dark brown to black color with leathery consistency as it healed and regressed in size. It took two weeks for the lesion to heal completely. (Fig.3).

Fig.3View of healed lesion.

Discussion: Critical care in an ICU encompasses a variety of challenges one of which is unexpected bleeding. Bleeding disorders can be hereditary or acquired. Acquired ones include vascular defects, platelet disorders, coagulation defects, use of fibrinolytics.

Fibrinolytics are the drugs used to lyse thrombi/clot to recanalyse occluded blood vessels (mainly coronary artery).They work by activating the natural fibrinolytic system. Streptokinase an effective fibrinolytic is used to lyse the clot and recanalyse occluded blood vessels. It is obtained from beta hemolytic streptococci group C. It acts by combining with circulating plasminogen to form an activator complex which causes proteolysis to form plasmin.[5]

Increased bleeding tendency is a prime concern in any patient. Any minor irritation can lead to massive bleeding in patients who have undergone thrombo-embolisation procedure. Excessive bleeding tendency can also occur with concurrent administration of other drugs such as aspirin, clopidigrel, heparin etc.

When multiple brown macules or swellings are observed and echymosis is included in the differential diagnosis, a hemorrhagic diathesis should be considered. Certainly patients taking anticoagulants may present with oral echymosis particularly on cheek or tongue which can be traumatized while chewing. Coagulopathic echymosis may also be encountered in hereditary coagulopathic disorders and in chronic liver failure[3].

In the present case all the blood parameters were found to be within normal limits, and no evidence was found for presence of any irritating factor that might have caused the intraoral swelling. Hence it was anticipated that the cheek mucosa intervened while the patient occluded or chewed which might have resulted in hematoma formation.

This case reports a unique situation where in hematoma appeared on the buccal mucosa after 3 hours of administration of streptokinase in a MI patient. Similarly another case reported, spontaneous mediastinal haemorrhage following streptokinase infusion.[6] Care of the patient with bleeding disorders must be placed in the new perspective. Preventive dental care for patients with known bleeding disorders has to be intensive and should include regular dental visits, frequent professional tooth cleanings, oral hygiene reinforcement, fluoride supplements and mouth

rinses, low sugar diet and annual radiographic examination. Continued efforts help in arresting, eliminating the need for invasive dental procedures and reduce the risk of associated prolonged bleeding. In the present case local measures sufficed for management of bleeding. Other available local hemostatic agents include absorbable gelatin, absorbable collagen, microfibrillar collagen, oxidized cellulose, thrombin, fibrin glue, platelet rich plasma.[7]

It is advised to avoid applying heat to the area as heat produces vasodilatation, which may further increase the size of the hematoma. Apply warm moist towel for the affected area every hour. Application of ice may act both as analgesic and a vasoconstrictor and helps in minimizing the size. It is said that usually hematoma persists for 7 days with or without treatment.

In the present case, combined effect of fibrinolytics and interference of cheek mucosa while occluding the teeth caused intraoral hematoma as there were no evidence of injury or presence of sharp cusps in the near vicinity.

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