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Spontanoeus Lingual Hematoma after Co-Administration of Tirofiban and Clopidogrel

Hatice Selcuk, M. Timur Selcuk and Orhan Maden
Department of Cardiology, Turkiye Yuksek Ihtisas Hospital, Ankara, Turkey

Abstract: Glycoprotein IIb/ IIIa inhibitors and thienopyridine improve clinical outcomes of patients undergoing primary percutaneus coronary intervention. We present a case of a 74-year-old woman with acute anterior myocardial infarction, treated with primary coronary intervention in whom spontanoeus lingual hematoma was observed after co-administration of tirofiban and clopidogrel. This case emphasizes potentially life-threatening consequence of the clopidogrel and tirofiban co-administration.

Key words: Lingual hematoma, tirofiban, clopidogrel

INTRODUCTION

Antiplatelet agents such as thienopyridines and glycoprotein IIb/ IIIa (GP IIb/ IIIa) receptor blockers are recommended for the treatment of patients with Acute Coronary Syndromes (ACS) undergoing primary Percutanoeus Coronary Intervention (PCI) and associated with a reduction in mortality and morbidity. Despite extensive data supporting the use of GP IIb/ IIIa inhibitors and clopidogrel in the therapy of acute coronary syndromes, there has been a concern over safety issues regarding concomitant use of these agents. We hereby present a case of a 74-year-old woman with acute anterior myocardial infarction, treated with PCI and in whom spontanoeus lingual hematoma was observed after co-administration of tirofiban and clopidogrel.

Case Repaort: A 74-year-old woman with a past medical history of hypertension and hypercholesterolemia presented to the emergency room of our institution with new onset angina. Her blood pressure was 130/ 80 mmhg, pulse 72 beats/ minute. Cardiovascular examination revealed a normal rate and regular rythm without murmur. An Electrocardiogram (ECG) demonstrated acute ST elevation in the anterior leads and subsequent troponin I measurement was elevated at 1.2 mg/dl. Aspirin (160 mg PO), intravenous nitrogliserin, beta blocker, heparin (60IU/ kg IV bolus, followed by a 12IU/kg/h maintenance) were administrated. The patient was also started on oral clopidogrel with a loading dose of 300 mg and tirofiban (10 microgram/ kg over three minutes followed by a maintenance infusion of 0.10 microgram/kg/ min 24-36 h). Thirty minutes after her presentation the patient underwent coronary angiography that disclosed a 100% mid left anterior descending lesion. A 3,0x 16 mm stent was implanted resulting in 0% residual stenosis and Trombolysis in Myocardial Infarction (TIMI) 3 flow. Sixteen h after the beginning of tirofiban, the patient told her nurse that she had felt a sudden fullness in her tongue.

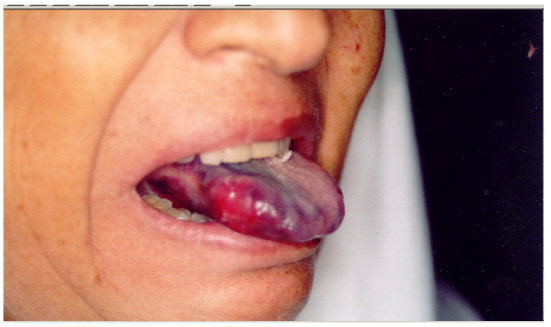

Fig. 1: Photograph showing spontanoeus lingual hematoma

Examination of her oral cavity revealed hyperemic and ecchymotic areas on the right side of the tongue and at the floor of the mouth. The involved tissues were diffusely swollen consistent with a newly developed intraoral hematoma Fig. 1. Her anticoagulant and antiplatelet medications were stopped and considering the potential risk of a sudden catastrophic upper airway occlusion entailed by the hematoma, the patient was closely monitored by the nursing staff throughout her hospitalisation in the coronary care unit. On further questioning, she did not give a history of prior hemorrhagic diathesis or direct oral trauma before or after the admission and there were also no need for any airway management at the catheterization laboratory. During

Corresponding Author: M. Timur Selcuk, Ayvali M. 5.C. 92.S. No:2/8 06020 Ankara- Turkey

subsequent follow up, no signs of airway obstruction developed obviating the need for intubation and repeated oral examinations revealed no additional lesion. The hematoma resolved and swelling reduced in 24 to 48 h. The patient was continued on clopidogrel 75 mg daily in addition to aspirin and discharged on the fifth hospital day.

DISCUSSION

Clopidogrel is a thienopyridine compound that inhibits adenosine diphosphate mediated platelet aggregation irreversibly[1]. Tirofiban is one of the GpIIb/IIIa receptor blockers which inhibits platelet aggregation by preventing fibrinogen from binding to glycoprotein GPIIb/ IIIa receptor sites on activated platelets[2].

Several studies have demonstrated the clinical efficacy and safety of clopidogrel for the treatment of patients with non-ST segment elevation ACS, including those undergoing PCI[3-5].

In addition to their well- documented efficacy, both of these agents have the potential for the untoward effect of bleeding. Recent data suggest medication errors related to the dose, duration and concomitant use of these agents contribute to increasing the risk of hemorrhage in patients treated for ACS[6].

In the Clopidogrel in Unstable Angina to Prevent Recurrent Events (CURE) trial, increased bleeding and greater requirement for blood transfusions were seen with clopidogrel[3]. On the other hand, the incidence of major hemorrhage was similar in the clopidogrel treated group compared to the aspirin treated group in the Clopidogrel versus Aspirin in Patients at Risk of Ischemic Events (CAPRIE) trial[7]. In the Platelet Receptor Inhibition in Ischemic Syndrome Management in Patients Limited by Unstable Signs and Symptoms (PRISM-PLUS) study, patients treated with heparin plus tirofiban had more bleeding events compared to patients treated with heparin alone. No significant increase in major bleeding observed among the patients who received combination therapy. Tirofiban added to heparin increased minor hemorrhagic complications[8].

Limited data are available with regard to the safety of combining clopidogrel with Gp IIb/IIIa inhibition during primary PCI. Ozkan and colleagues reported that, pretreatment with tirofiban and clopidogrel before PCI might result in better immediate outcomes in old saphenous vein grafts without any significant increase in bleeding complications[9].

There are few reports of lingual hematomas as a complication of warfarin, streptokinase and tissue plasminogen activator use[10-14]. While mural hemorrhagic involvement of tongue has been published in the medical literature before, such an occurence, to our knowledge, has never been reported specifically a therapeutic combination of tirofiban and clopidogrel.

In our opinion, this case graphically illustrates a potentially life-threatening consequence of the clopidogrel and tirofiban co-administration. Clinicians need to be vigilant for this complication even if it is seldom encountered.

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