

Case reports

Labial Artery Hemorrhage After a Dentist Appointment

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We present the case of a male in his 70's presenting to the Emergency Department via Emergency Medical Services (EMS) for concern of bleeding from the mouth. Patient arrives to the department simultaneously holding an emesis bag that is filling with a sanguinous fluid with one hand while cupping his face with another. The patient is surrounded with multiple packs of gauze soaked with blood. EMS reports that the patient is coming from a dental appointment where he underwent a cleaning and then began to experience a significant amount of bleeding that has not been controlled with direct pressure or packing.

INTRODUCTION

Dental concerns in the emergency department are seldom life-threatening concerns. Common dental pathologies include dentoalveolar injuries, odontogenic infections, or maxillofacial trauma.¹ Common complications that may arise after dental procedures include pain, swelling, infection, and bleeding.¹ According to the literature review, there are few instances in which a non-invasive dental procedure such as dental cleaning that causes an acute life-threatening emergency—especially in a patient with no previous medical history and no identifiable bleeding risks. However, there are occasional instances of significant complications with oral injuries. For example, dental procedures in pediatric patients that place a live wire in their mouth can cause electrical injury, burning through the labia and require strict return precautions for a labial artery bleed. There are more rare instances of cases with Caliber persistent labial arteries that are assumed to be masses and upon biopsy, have profuse hemorrhage.^{2,3}

The inferior labial artery (ILA) is a blood vessel supplying the lower lip, originating predominantly from the facial artery.⁴ The facial artery itself arises from the external carotid artery, which branches off the common carotid artery within the carotid triangle. After its origin, the facial artery ascends, giving rise to several branches, including the inferior labial artery, which courses horizontally through the submucous tissue beneath the orbicularis oris muscle to supply the lower lip.⁵ Thus, injury to the labial artery can produce a significant amount of blood loss and should be approached like a carotid bleed due to its origin from the carotid artery.⁶

CASE PRESENTATION

This patient is a male in his 70's with a past medical history of Parkinson's, hypertension, and previous stroke presenting to the emergency department via emergency medical



Figure 1.

services with a chief complaint of “mouth bleeding”. Report was given that the patient was being transferred from a dental appointment in which he obtained a dental cleaning. Patient denied any specific instance in which he can recall as to the exact cause of the bleeding. He denied being on anticoagulation and denied any previous history of bleeding concerns for himself or history of anemia. Upon arriving to the emergency department patient was found to be in mild acute distress— unable to speak in full sentences as the patient had packing in his mouth and was actively holding an emesis bag below his mouth to catch the sanguineous fluid falling from his mouth (Figure 1). Thankfully at this time the patient's vitals were stable with no sign of tachycardia or hypotension.



Figure 2.

Upon removing the packing an arterial pulsatile bleed was noticed coming from a singular source at the patient's lip. This was able to be controlled with directed point pressure. Tranexamic acid-soaked gauze and sustained pressure did not control the bleeding.

The patient was then taken into a procedure room where two figure of eight sutures were placed to control the arterial bleed followed by 2 additional sutures placed for a lip laceration repair (Figure 2)

After intervention the patient was given a fluid bolus and lab work was sent to evaluate for significant blood loss. As the patient had no history of anemia and stable vital signs acute anemia was not expected. However, patient was noted to have normocytic anemia with no previous value present in the system. Repeat vital were significant for tachycardia, but the patient was noted to have tremors on physical exam at that time leading to a false elevation of the heart rate on the monitor and was subsequently discharged. No follow up was don't after the fact, but no re-admission/evaluation documents were present in the system months following the initial visit either.

DISCUSSION

While the definitive management of an arterial bleed frequently requires surgical intervention other options in-

clude but are not limited to attempting direct pressure, blood pressure management, embolization, local medical therapy, systemic medical therapy, or a combination of the aforementioned. In this case direct pressure management had failed outpatient and during emergency medical services transport. This is most likely due to the fact that the larger labial artery was involved versus a venous structure and therefore more difficult to control. Stuart et al comment how prehospital care with packing made be a time intensive effort that can destabilize during transport and how options such as iTClamp can be more expedient in treatment in comparison to combat gauze⁷; however in this case of a lip bleed, such a device would not have helped, as this clamp is designed for controlling hemorrhage in extremities.⁸ In some cases of arterial bleed/injury a tourniquet is required for hemostasis or vascular surgical intervention as it may be the only patent blood supply option (consider the Allen test for radial artery arterial line monitoring to prevent ischemia). In the case of the labial artery there is collateral flow from the contralateral side, so suturing the artery should not cause significant ischemia⁹

No other case studies have been identified of a patient suffering an arterial bleed from a dental cleaning procedure. While bleeding from a tooth extraction is noted and common, it is still not as invasive as other dental procedures, and the American Academy of Neurology doesn't even recommend (Level 1) stopping antiplatelet agents such as aspirin or anticoagulant coumadin prior to undergoing this routine procedure much less a dental cleaning.⁷

In this case, a labial arterial hemorrhage was able to be contained with suture placement, but in the event that this is not the case a stepwise approach to bleeding is recommended. There are two types of bleeding—compressible and noncompressible. This patient had a case of compressible bleeding. Direct pressure should be the first line of management in compressible bleeding. If there is a non-compressible bleed hemostatic agents have been employed.⁸ Systemic or topical tranexamic acid can be considered, and in a life-threatening bleed, the risk vs benefit of reversing an anticoagulant should be discussed with consultants.

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