

## Spontaneous Bleeding From a Normal Looking Tonsil: A Rare Entity

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### ABSTRACT

**Introduction:** Spontaneous tonsillar haemorrhage is a rare condition in otolaryngology unlike the post tonsillectomy haemorrhage which is frequently encountered. Its severity varies from minor ooze of blood to major life threatening situation.

**Objective:** The aim of this study is to present a case of spontaneous tonsillar hemorrhage in an adult; and to discuss possible pathophysiology and the treatment options for this condition.

**Case report:** The patient was a 38-year-old man who presented with the complaint of sudden onset fresh bleeding for few hours from mouth without any significant medical or surgical history. On examination no active bleeding sites were visualized in spite of having a blood clot in the superior pole of left tonsil. All the routine laboratory parameters including the coagulation profile were within the normal range. Patient was managed conservatively with intravenous antibiotics. He was discharged on 5<sup>th</sup> day with uneventful the hospital stay.

**Conclusion:** Spontaneous tonsillar haemorrhage is a rare, but potentially life threatening condition which can result from various causes; the most important being the infectious cause that can be managed with simple conservative methods; and the emergency tonsillectomy can be avoided.

**KEYWORDS:** Spontaneous, Palatine tonsil, Haemorrhage, Bleeding.

### INTRODUCTION

Tonsillectomy is among the commonest surgical procedures to be performed in Otorhinolaryngology, and the post-tonsillectomy haemorrhage is a well-known complication of this procedure which is frequently encountered by the Otorhinolaryngologists. However, the cases of spontaneous or idiopathic tonsillar haemorrhage are rarely reported in the literature. Spontaneous tonsillar haemorrhage is a rare condition in this antibiotic era; with the incidence of about 1.1%<sup>1,2</sup>. Cases of spontaneous tonsillar haemorrhage resulting from infectious tonsillitis (bacterial and viral), infectious mononucleosis, peritonsillar, parapharyngeal and retropharyngeal abscesses have been reported in the medical literature. Similarly, there have been few reported cases of such haemorrhage associated with vascular malformation, aneurysm or pseudo-aneurysm of the carotid and superficial temporal arteries, Von Willebrand's disease, and malignancy. The inflammatory process associated with the infection of the tonsils can lead to erosion of small peripheral blood vessels or occasionally it can involve major vessel such as carotid artery<sup>3</sup>. The available literature on spontaneous tonsillar haemorrhage is in the form of case reports from various parts of the world. From these reported cases it has been found that this condition mainly affects younger age group<sup>4</sup>.

The aim of this study is to present a case of spontaneous tonsillar hemorrhage in an adult, and to discuss possible pathophysiology, and the treatment options for this potentially life threatening condition. No similar cases have previously been reported from Nepal so this is the first case of its kind.

### CASE REPORT

A 38-year-old male was brought to the emergency room (ER) with the complaint of sudden onset fresh bleeding from mouth for few hours followed by foreign body sensation in throat. He denied sore throat, fever and cough. He did not give any history of bleeding disorders and trauma. There was no history of any drug or food allergy. Rest of the medical history and family history were unremarkable.

On arrival his vital signs including blood pressure and pulse rate were stable. Examination of oropharynx revealed bilateral grade II hypertrophy of palatine tonsils with a blood clot in the superior pole of the left palatine tonsil (Fig 1). However, no active bleeding was visualized. The tonsils and posterior pharyngeal wall were mildly congested but there was no any pus point. Jugulodigastric lymph node was neither enlarged nor tender; and there was no palpable cervical lymphadenopathy.



**Fig 1: Blood clot in the superior pole of left palatine tonsil.**

Routine laboratory parameters such as complete blood count including haemoglobin (12 gm/dl) and platelets were within normal range. Serological investigations for HIV, syphilis and hepatitis B and C were negative. Coagulation profile including prothrombin time, activated plasma thromboplastin time, bleeding and clotting time were within normal limit. Biochemical markers such as random blood sugar and serum electrolytes were also within normal limit.

Patient was then admitted in the ENT ward and broad spectrum intravenous antibiotics were started (Combination of ampicillin plus cloxacillin; and metronidazole) and antiseptic mouth gargle containing povidone iodine was advised. Blood grouping was done and two pints of whole blood were arranged and cross matched. Hot foods were restricted due to the fear of bleeding but cold liquid diet and fruit juice were encouraged with assumption of controlling the inflammation if any, thus arresting the local bleeding. His hospital stay was uneventful with no similar attack of bleeding from mouth. He was discharged on 5<sup>th</sup> day of admission. Tonsillar bed was normal with no signs of inflammation on his routine follow up 2 weeks later, after being discharged from the hospital.

## DISCUSSION

Palatine tonsils are mass of lymphoid tissue situated in the lateral wall of oropharynx between anterior and posterior tonsillar pillars; formed by palatoglossus and palatopharyngeus muscles respectively. Palatine tonsils are supplied by five arteries; tonsillar branch of facial artery (main supply), ascending pharyngeal artery

(branch of external carotid artery), ascending palatine artery (branch of facial artery), dorsal lingual branches of lingual artery and descending palatine branch of maxillary artery. Venous drainage of the tonsil is to the paratonsillar vein and through the palatal vein to the facial vein and from there to the internal jugular vein. There is also drainage via the pterygoid plexus to the internal jugular vein.

Spontaneous bleeding from palatine tonsil is rare. However, in the pre-antibiotic era infectious causes like acute tonsillitis and peritonsillar abscess were found to be responsible for vessel erosion leading to bleeding from the tonsils<sup>4</sup>. Bleeding secondary to tonsillectomy is a recognized complication of the tonsillar surgery which is frequently encountered so the iatrogenic cause, that is, surgery to the tonsils has to be ruled out first before searching for the possible etiologies of spontaneous tonsillar haemorrhage. Various other causes have been found to be associated with spontaneous tonsillar hemorrhage such as infectious tonsillitis, peritonsillar or parapharyngeal abscess, infectious mononucleosis, vascular pseudo-aneurysm or aneurysm, tonsillar malignancy and coagulopathy<sup>5</sup>. Among these causes, infection is thought to be the most common cause<sup>6</sup>. Regarding the literature on spontaneous tonsillar bleeding, there are various case reports from different parts of the world. From the current available literature it has been found that the majority of cases of spontaneous tonsillar bleeding predominantly occur in children or young adults<sup>4</sup>.

Patient having spontaneous tonsillar haemorrhage may present as fresh bleeding from mouth or spitting blood mixed saliva or blood clots. Haemoptysis, haematemesis and posterior epistaxis can also present in a similar way so these conditions have to be ruled out first<sup>1</sup>. Similarly, the work up should be done to rule out coagulopathy and haematological disorders. Examination of oral cavity and oropharynx often reveals presence of fresh bleeding points or clots in tonsils. However, flexible nasopharyngolaryngoscopic (NPL) examination has to be performed to rule out nasopharyngeal carcinoma and haemangioma in oro/hypo pharynx.

The types of bleeding can be diffuse parenchymal bleeding or localized bleeding from dilated surface vessels which may be major vessels or smaller peripheral vessels. The bleeding is mainly venous in origin<sup>5</sup>. The pathogenesis can be described for infectious etiology which results in vessel erosion. So, the possible mechanism of the spontaneous tonsillar haemorrhage may be explained by the fact that during acute tonsillitis there is increased blood flow to the tonsils which causes vascular engorgement that can lead to extravasation of red blood cells resulting into diffuse parenchymal tonsillar bleeding<sup>5</sup>. Similarly, there can be damage of the prominent engorged vessels on the surface of tonsils, due to necrosis of the surrounding inflamed tissue; or trauma

causing bleeding from the tonsillar surface<sup>5,6</sup>. Tonsillar bleeding can also be caused by spontaneous drainage of deep neck space abscess such as peritonsillar abscess.

Regarding the treatment methods, generally the mild cases of spontaneous tonsillar bleeding can be managed with antibiotic therapy and/or local control measures such as silver nitrate cauterization, adrenaline application and suture ligation; and arteriography is advised for severe bleeding<sup>2</sup>. Bipolar electrocauterization can also be tried in cases of mild haemorrhage. Tonsillectomy (unilateral or bilateral) may have to be performed if bleeding does not stop with conservative management methods; or when there is recurrent episodes of bleeding and when the possibility of malignancy cannot be ruled out<sup>1,4-6</sup>.

Early tonsillectomy is the recommended the treatment choice for this condition as suggested by various reported cases<sup>4,7</sup>. In fact, tonsillectomy during active bleeding is rarely necessary, emergency “hot” tonsillectomy in the presence of acute tonsillitis poses a challenge as there is increased vascularity and poorly defined surgical plane which is associated with increased risk of post-operative complications such as haemorrhage therefore this should be avoided unless absolutely necessary. Similarly, vascular malformations especially the aneurysm of carotid artery should be borne in mind and the Otorhinolaryngologists should make a habit of palpating the tonsils for possible arterial pulsation to prevent catastrophe while doing tonsillectomy. Such malformations can be ruled out by the investigations such as neck ultrasound or arteriogram<sup>2</sup>. The risk of such bleeding is uncontrolled blood loss and aspiration of blood resulting into life threatening situation. Mortality resulting from tonsillar haemorrhage has also been reported in the literature<sup>8</sup>. Similarly, the ingested blood can induce vomiting and cause epigastric discomfort as blood is a bad irritant. Therefore, the bleeding has to be arrested meanwhile bleeding site and etiology should to be searched for.

In our case, the patient improved with conservative treatment with intravenous antibiotics and antiseptic mouth gargle bearing in mind the possibility of infection of oropharynx involving palatine tonsils as the posterior wall of oropharynx and the tonsils were congested with throat discomfort at the time of initial presentation.

Tonsillar haemorrhage in our patient was mild which probably resulted from the bleeding of superficial peripheral blood vessels, and he did not have similar episode of bleeding and his tonsils were normal on his routine follow up.

## CONCLUSION

Spontaneous tonsillar haemorrhage resulting from non-iatrogenic/non-traumatic cause is a rare, but potentially life threatening condition. Various causes have been found to be associated with this condition. The infectious cause has to be ruled out first as infection can be managed conservatively with intravenous antibiotics, and the need of emergency tonsillectomy can thus be avoided. We present a first case of spontaneous tonsillar bleeding in Nepal along with the review of relevant literature.

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