

Blood Without a Source: A Diagnostic Challenge in Recurrent Oropharyngeal Bleeding

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ABSTRACT: Oropharyngeal bleeding may be difficult to distinguish from hemoptysis when the source of blood is not apparent, potentially prompting extensive evaluation for pulmonary or gastrointestinal causes. This report describes an 82-year-old woman who experienced recurrent episodes of bright red blood mixed with saliva over approximately two weeks, without associated coughing or vomiting. Initial evaluation did not identify a bleeding source, and the episodes resolved spontaneously before otolaryngologic examination. Flexible nasolaryngoscopy revealed mild nasal mucosal irritation without active bleeding or an identifiable lesion. Prominent pulsation of the posterior pharyngeal wall raised suspicion for a retropharyngeal carotid course, although this finding was not confirmed by vascular imaging. Minor mucosal trauma was considered a possible explanation, but the exact source of bleeding remained undetermined. This case highlights the importance of localizing unexplained oral bleeding and recognizing potential vascular anatomical variants during examination of the posterior pharynx.

KEYWORDS: Oropharyngeal hemorrhage, retropharyngeal carotid artery, hemoptysis, mucosal trauma, flexible nasolaryngoscopy.

1. INTRODUCTION

Blood in the mouth may originate from the respiratory tract, gastrointestinal (GI) tract, nose, oral cavity, or pharynx. Finding the source can be difficult when the blood is no longer present by the time the patient is examined. Oropharyngeal bleeding has been reported to mimic both hemoptysis and hematemesis, so the source should be localized before attributing the bleeding to the respiratory or GI tract.¹

Minor mucosal trauma can cause localized oral or pharyngeal bleeding. Horie et al.² described 16 patients with angina bullosa haemorrhagica (ABH), a condition characterized by hemorrhagic blisters, and reported that most lesions developed during eating. A systematic review by Ordioni et al.³ similarly identified triggering or promoting factors in many reported cases. Although ABH is a distinct clinical entity, these findings suggest that mechanical irritation may contribute to localized mucosal hemorrhage. Vascular anatomical variations can also complicate examination of the posterior pharynx.

Aberrant or tortuous internal carotid arteries may course unusually close to the pharyngeal wall. Huang et al.⁴ described two cases in which the artery was approximately 1 mm from the posterior pharyngeal wall in one patient and in direct contact with it in another. Recognition of these variations is important because of the potential for severe vascular injury during pharyngeal procedures.

We report a case of recurrent oropharyngeal bleeding in an elderly woman whose symptoms were resolved before specialist evaluation. Although no definitive bleeding source was identified, examination revealed prominent pulsation of the posterior pharyngeal wall, raising suspicion for a retropharyngeal carotid course. The case illustrates the diagnostic uncertainty associated with intermittent oral bleeding and the importance of recognizing potentially significant vascular anatomical findings.

This case study describes an elderly woman with recurrent oropharyngeal bleeding that stopped on its own before specialist evaluation. No definitive source was found, but examination showed prominent pulsation of the posterior pharyngeal wall, consistent with a retropharyngeal carotid course.

2. CASE PRESENTATION

An 82-year-old woman presented to an outpatient clinic on September 21, 2026, with a two-week history of recurrent episodes of bright red blood in her mouth. She described the episodes as an accumulation of saliva before blood appeared mixed with the saliva. The episodes occurred approximately three to five times daily, both during the day and upon awakening. She denied

associated coughing, shortness of breath, fever, chills, nausea, vomiting, abdominal pain, dysphagia, odynophagia, voice changes, or epistaxis. She reported no preceding trauma or identifiable precipitating event. A recent dental evaluation for a suspected dental abscess had not identified an odontogenic or infectious source of bleeding.

Her medical history included recently diagnosed Parkinson disease, chronic hypothyroidism, and essential hypertension. Her surgical history included cholecystectomy and knee replacement. She reported a postoperative venous thrombosis following knee replacement several years earlier, for which she had received anticoagulation; she was no longer taking anticoagulants at presentation. Her active medications included levodopa, aspirin, etodolac, lorazepam 0.5 mg twice daily, levothyroxine 100 mcg daily, fluoxetine 40 mg daily, and vitamin D once weekly. The doses and frequencies of levodopa, aspirin, and etodolac were unavailable. She reported no lifetime use of tobacco, alcohol, or illicit substances and denied occupational or personal exposure to caustic substances or inhaled irritants.

At the initial visit, her blood pressure was 159/83 mm Hg and increased to 166/91 mm Hg on repeat measurement. Her heart rate was 64 beats/min, and oxygen saturation was 92% on room air. She appeared well and was in no acute distress, with no active bleeding observed during the examination. Given the elevated blood pressure, amlodipine (Norvasc) 5 mg daily was prescribed for seven days. The patient subsequently reported edema, and amlodipine was discontinued.

An initial diagnostic evaluation was ordered to assess for hematologic, coagulation, metabolic, and potential cardiopulmonary abnormalities. Testing included a complete blood count, comprehensive metabolic panel, prothrombin time (PT), international normalized ratio (INR), activated partial thromboplastin time (aPTT), lipase, amylase, and chest radiography. Aspirin, etodolac, and vitamin D were held pending further evaluation. Laboratory results showed a hemoglobin concentration of 13.9 g/dL and a platelet count of $234 \times 10^3/\mu\text{L}$. Coagulation studies were within the reported reference ranges (PT, 11.0 seconds; INR, 0.99; aPTT, 26.8 seconds). Renal and hepatic function were within normal limits, with an estimated glomerular filtration rate (eGFR) of 86 mL/min/1.73 m², and chest radiography showed no acute cardiopulmonary disease. These findings did not demonstrate anemia, thrombocytopenia, or abnormalities in routine coagulation studies. Although aspirin and etodolac were held because of their potential to contribute to bleeding, a medication-related contribution could not be definitively excluded.

At follow-up the next day, the patient continued to report intermittent episodes of oral bleeding, including upon awakening and after eating. She denied blood in her stool. Because the source remained unclear despite the initial evaluation and dental assessment, she was referred to otolaryngology for further investigation.

Otolaryngologic Evaluation

At her otolaryngology evaluation on September 24, 2026, the patient reported that the bleeding had abruptly ceased the previous day, following approximately two-weeks of intermittent episodes. Her blood pressure was 145/80 mm Hg, and oxygen saturation was 97% on room air. Examination of the oral cavity, including the buccal mucosa, teeth, tongue, palate, and posterior oropharynx, revealed no apparent source of bleeding or evidence of trauma.

Flexible nasolaryngoscopy was performed to further evaluate the potential source. The examination reveals mild focal irritation of the nasal mucosa without active bleeding; no bleeding source was identified in either nasal cavity. The nasopharynx, palate, tongue base, epiglottis, hypopharynx, and larynx were otherwise unremarkable. Both vocal folds were mobile, and no mass or other neoplastic lesion was identified.

Prominent vascular pulsation was noted along the posterior pharyngeal wall, raising the possibility of a retropharyngeal course of the carotid artery. No active hemorrhage was observed during the examination. Because the bleeding had resolved before the evaluation, the precise source of the episodes remained undetermined.

3. MANAGEMENT AND OUTCOME

Initial evaluation included complete blood count, coagulation studies, renal and hepatic function testing, and chest radiography. These investigations did not reveal anemia, thrombocytopenia, a clinically significant coagulation abnormality, or an acute cardiopulmonary finding. Given the absence of cough or other respiratory symptoms and the patient's description of bright red blood mixed with saliva, an upper-airway source was considered, prompting referral to otolaryngology. Blood pressure was elevated during the initial evaluation, reaching 166/91 mm Hg. Antihypertensive therapy was initiated during the initial visit, and continued monitoring was recommended. At the otolaryngology visit, blood pressure had decreased to 145/80 mm Hg.

By the time of flexible nasolaryngoscopy, the bleeding had stopped. No active hemorrhage or identifiable mucosal lesion was observed, although prominent posterior pharyngeal vascular pulsation was noted. Because the patient was clinically stable and no definitive source was identified, conservative management was recommended. She was advised to consume soft foods, avoid sharp or abrasive foods that might irritate the mucosa, and seek emergency evaluation if significant bleeding recurred.

The bleeding resolved spontaneously approximately two weeks after symptom onset. No definitive source was established, and the relationship between the posterior pharyngeal vascular finding and the bleeding remained uncertain. No recurrence of significant hemorrhage was documented during the available follow-up period.

4. DISCUSSION

This case illustrates the diagnostic challenge of recurrent blood in the mouth when the source is not readily apparent. Although a pulmonary source was initially considered, the absence of cough or other respiratory symptoms, together with an unremarkable chest radiograph, made hemoptysis less likely. The patient's description of bright red blood mixed with saliva raised suspicion for an oral or oropharyngeal source. Nguyen et al.¹ described a case of spontaneous oropharyngeal hemorrhage in which bronchoscopy and upper gastrointestinal endoscopy failed to identify the source before CT angiography demonstrated bleeding from a posterior pharyngeal artery. This case underscores the importance of localizing the source of bleeding rather than assuming a pulmonary or gastrointestinal origin.

The differential diagnosis included pulmonary, gastrointestinal, dental, mucosal, and vascular sources of bleeding. A pulmonary source was considered less likely because of the absence of respiratory symptoms and the lack of acute findings on chest radiography. A gastrointestinal source was also less strongly supported because the patient denied nausea, vomiting, abdominal pain, and blood in her stool. Additionally, examination of the oral cavity did not reveal an obvious dental or anterior oral source. Although these findings favored an oropharyngeal origin, the precise location of bleeding remained undetermined.

Minor mucosal trauma was considered a possible explanation for the bleeding, particularly because the patient reported an episode after eating. Although no mucosal injury was identified on examination, a transient injury could have been resolved prior to otolaryngologic evaluation.

Previous literature supports mechanical irritation as a potential trigger for localized mucosal hemorrhage. Horie et al.² reported that 12 of 16 patients with ABH developed lesions while eating hard or crispy foods. Similarly, a systematic review by Ordioni et al.³ found that a triggering or promoting factor was reported in 82% of ABH cases for which this information was available. These findings suggest that mechanical irritation may contribute to mucosal bleeding, although they do not establish the cause of bleeding in the present case.

The patient did not have a documented hemorrhagic blister, which is characteristic of ABH; therefore, this diagnosis cannot be established. However, the possibility of transient mucosal

injury remains consistent with the clinical presentation. Yanagita et al.⁵ also described pharyngeal hemorrhage occurring immediately after food ingestion, providing a relevant clinical parallel. Taken together, these reports support minor mechanical trauma as a possible explanation for the patient's bleeding, but the absence of an identifiable lesion prevents confirmation of this mechanism.

An unusual finding in this case was the prominent posterior pharyngeal vascular pulsation observed during flexible nasolaryngoscopy, which raised suspicion for a retropharyngeal carotid course. Aberrant or tortuous internal carotid arteries may lie unusually close to the posterior

pharyngeal wall. Huang et al.⁴ described two patients with aberrant internal carotid arteries in the oropharyngeal space, including one vessel located approximately 1 mm from the pharyngeal wall and another in direct contact with it. Recognition of this anatomical variation is important because injury to a major arterial structure during pharyngeal trauma or an invasive procedure could result in severe hemorrhage.

In the present patient, the prominent vascular pulsation raised the possibility that an underlying anatomical variation could have increased susceptibility to bleeding following minor mucosal trauma. However, no active arterial hemorrhage or other definitive vascular source was identified. Without documented vascular imaging, the suspected retropharyngeal carotid course cannot be confirmed or established as the cause of bleeding. It should therefore be regarded as a potentially important anatomical finding rather than a demonstrated bleeding source.

Other potential causes of intermittent oropharyngeal bleeding include pharyngeal hematoma and focal arterial lesions. Okada et al.⁶ described a spontaneous pharyngeal hematoma associated with hemoptysis. At the same time, Daou et al.⁷ reported recurrent oropharyngeal bleeding caused by a lingual artery pseudoaneurysm that was diagnosed angiographically and treated with embolization. These reports illustrate the range of potential causes and the role of imaging when a vascular lesion or deeper hemorrhagic process is suspected. In the present case, no hematoma, pseudoaneurysm, or active vascular extravasation was documented. Because vascular imaging was not reported, these conditions cannot be definitively excluded solely on clinical examination. Elevated blood pressure was another clinical finding in this patient. Although hypertension has been reported among patients with ABH, Horie et al.² did not establish a causal relationship between hypertension and hemorrhagic lesions. Accordingly, the patient's elevated blood pressure should be considered a concurrent clinical finding rather than an established cause of the bleeding.

The principal limitation of this case is that the bleeding source was never definitively localized. The symptoms resolved before otolaryngologic examination, and flexible nasolaryngoscopy revealed no active hemorrhage or identifiable mucosal lesion. Although transient mucosal trauma was considered a plausible explanation, it could not be confirmed. Furthermore, the prominent posterior pharyngeal vascular pulsation raised suspicion for a retropharyngeal carotid course, but this anatomical finding was not established as the source of bleeding. Without documented vascular imaging, an underlying vascular abnormality or lesion cannot be fully assessed. These limitations underscore the uncertainty surrounding the etiology of the patient's symptoms.

This case highlights the importance of determining the anatomical source of blood before attributing a presentation to hemoptysis. When the patient's history suggests an oral or pharyngeal source, careful examination of the oral cavity and upper airway may provide important diagnostic information. Recognition of a potentially aberrant carotid course is also important because of the risk of vascular injury during invasive procedures involving the posterior pharynx.⁴

5. CONCLUSION

Intermittent oropharyngeal bleeding can present a diagnostic challenge when symptoms resolve before direct examination. In this case, recurrent episodes of bright red blood mixed with saliva prompted evaluation for potential pulmonary, GI, dental, and upper-airway sources, but no definitive bleeding site was identified. Minor mucosal trauma remained a plausible explanation, although it could not be confirmed. Prominent posterior pharyngeal vascular pulsation raised suspicion for a possible retropharyngeal carotid course, highlighting the importance of recognizing potential vascular anatomical variations during upper-airway examination and before invasive pharyngeal procedures. This case emphasizes the need for careful source localization, appropriate consideration of alternative diagnoses, and cautious interpretation of findings when the etiology of bleeding remains uncertain.

6. ACKNOWLEDGMENTS

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7. DATA AVAILABILITY

No datasets were generated or analyzed during the preparation of this case report.

Consent for participation

Verbal and written informed consent was obtained from the patient for the preparation and publication of this case report. Informed consent was obtained by the Department of Internal Medicine, Stanford Medical Clinic.

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