

## CASE REPORT

# Drug-induced Airway Hematoma

<sup>1</sup>GM Divya, <sup>2</sup>Vijeya Dahiya, <sup>3</sup>K Ramachandran, <sup>4</sup>Faisal Muhammed

## ABSTRACT

Drug-induced airway hematoma is a very rare condition. The incidence of hemorrhage with anticoagulants is 6.8%. We hereby present the case reports of two such cases. Both patients presented with dysphagia and throat pain. One was on warfarin and the other was on aspirin. Examination revealed laryngeal and retropharyngeal hematoma respectively. Discontinuation of drugs and reversal of anticoagulation improved the symptoms. In the second case, retropharyngeal hematoma was drained. These cases highlight the importance of suspecting this entity in patients on drugs, especially anticoagulants who present with upper aerodigestive tract symptoms. Timely intervention and reversal of coagulopathy can save the patients.

**Keywords:** Airway, Aspirin, Coagulopathy, Hematoma, Retropharynx, Warfarin.

**How to cite this article:** Divya GM, Dahiya V, Ramachandran K, Muhammed F. Drug-induced Airway Hematoma. *Int J Head Neck Surg* 2015;6(4):187-189.

**Source of support:** Nil

**Conflict of interest:** None

## INTRODUCTION

Airway hematoma resulting from the side effect of chronic medications is a rare entity. Drugs commonly held responsible are anticoagulants like warfarin, antiplatelets like clopidogrel and aspirin, and nonsteroidal anti-inflammatory drugs like ibuprofen. Patients on oral anticoagulant therapy have abnormally low levels of functional vitamin K-dependent coagulation proteins and consequently increased risk of hemorrhagic complications. The most common sites of lethal bleeding are in the gastrointestinal tract and brain. Hemorrhage of the upper airway is an uncommon but potentially life-threatening complication of anticoagulant therapy. We report below two cases of such airway hematomas caused by warfarin and aspirin.

## CASE REPORTS

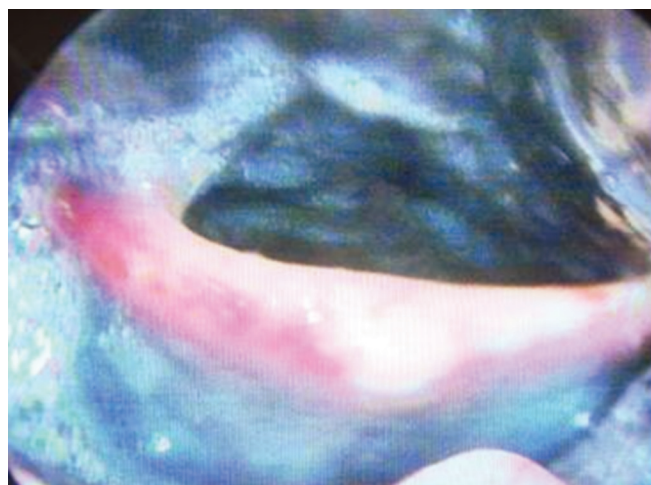
### Case 1

A 50-year-old diabetic, and hypertensive male presented in the ear, nose, and throat (ENT) casualty with a history of throat pain and difficulty in swallowing solids of 2 days' duration. He had history of deep vein thrombosis 2 months earlier and was on warfarin 5 mg once daily for 2 months.

On examination, he was found to be ill and weak, not able to sit without support. There was no stridor, but his voice was hoarse and muffled. Vitals were stable. Examination of oral cavity showed pooling of saliva. Oropharyngeal examination revealed edema and congestion of whole of the posterior wall. The valleculae, epiglottis, arytenoids, aryepiglottic folds, ventricular bands, and posterior pharyngeal wall showed bluish discoloration with diffuse ecchymosis and edema (Figs 1 and 2). Glottic space was narrow but adequate. Neck examination was normal.

Blood investigations revealed hemoglobin 8.7, total count 12,300/ $\mu$ l, ESR 145, prothrombin time 105 seconds, international normalized ratio (INR) 9.42. X-ray of the neck showed edema of epiglottis and arytenoids (Fig. 3). There was no prevertebral widening and the airway was adequate. Final diagnosis of warfarin-induced airway hematoma was made and the patient was admitted.

He was put on intravenous steroids and antibiotics. Warfarin was stopped and vitamin K injections were given. Two pints of fresh frozen plasma were also given after expert consultation. On postadmission day 2, the general condition improved dramatically and he started taking oral foods. His voice quality also improved. Repeat



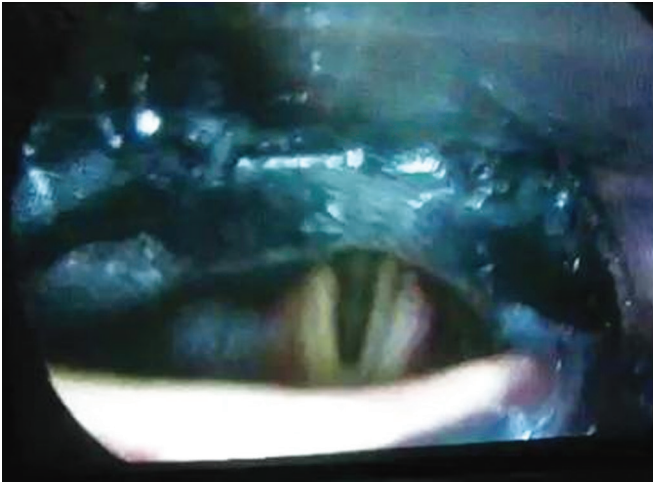
**Fig. 1:** Bluish discoloration of valleculae and epiglottis

<sup>1</sup>Assistant Professor, <sup>2,4</sup>Junior Resident, <sup>3</sup>Professor

<sup>1</sup>Department of Otorhinolaryngology, Government Medical College, Kozhikode, Kerala, India

<sup>2,4</sup>Department of ENT, Government Medical College, Kozhikode Kerala, India

**Corresponding Author:** GM Divya, Assistant Professor Department of Otorhinolaryngology, Government Medical College, Kozhikode, Kerala, India, Phone: +919447128285 e-mail: omdgm@yahoo.co.in



**Fig. 2:** Diffuse ecchymosis and edema of arytenoids, aryepiglottic folds, ventricular bands, and posterior pharyngeal wall



**Fig. 3:** X-ray soft tissue neck lateral view showing edema of epiglottis and arytenoids



**Fig. 4:** Ecchymosis in the neck and adjacent part of sternum



**Fig. 5:** X-ray soft tissue neck lateral view showing gross prevertebral widening

INR came down to 1.33. Repeat videolaryngoscopy revealed resolving laryngeal hematoma. Patient was restarted on low-dose warfarin after 10 days and titrated according to the INR.

**Case 2**

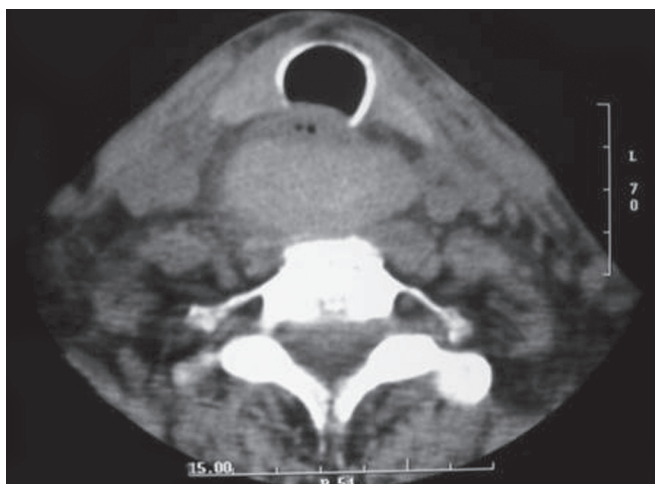
A 58-year-old man with history of fall under the influence of alcohol 2 days back presented in the ENT casualty with throat pain and difficulty swallowing solids for 2 days. He had a history of coronary artery disease and was on aspirin for 2 years. Examination revealed a bluish bulge in the posterior wall of oropharynx. Indirect laryngoscopy showed a gross bulge in posterior pharyngeal wall with bluish discoloration. Neck and adjacent part of sternum showed ecchymosis (Fig. 4). Cricovertebral crepitus was absent.

X-ray of the neck showed prevertebral widening (Fig. 5). Contrast-enhanced computed tomography

was done, which confirmed a large retropharyngeal hematoma compressing the airway (Fig. 6).

Blood investigations revealed normal white blood corpuscle count. Platelet count was 90,000. Bleeding time and coagulation time were normal. Prothrombin time-INR and activated partial thromboplastin time and liver function tests were normal. So the final diagnosis of aspirin-induced retropharyngeal hematoma was made.

Patient was put on intravenous antibiotics and aspirin was stopped. Despite conservative treatment, the patient's condition did not improve; so, on postadmission day 3, hematoma was drained by hypopharyngoscopy and criculate incision. Patient was kept on Ryle's tube feeding for 8 days after which the oral feeds started. A follow-up X-ray and videolaryngoscopy confirmed the resolution of hematoma. Patient was discharged on 10th day after restarting aspirin.



**Fig. 6:** Computed tomographic scan of neck, confirming the presence of a large retropharyngeal hematoma compressing the airway

## DISCUSSION

Only less than 10 cases of anticoagulant-induced airway hematoma have been reported in the English literature.<sup>1-6</sup> There is 6.8% incidence of hemorrhage with anticoagulants, less so for antiplatelets. Hemorrhage related to anticoagulation is observed usually in the genitourinary and gastrointestinal tracts, skin, central nervous system, nose, and retroperitoneum. In upper aerodigestive tract, the sublingual<sup>4</sup> and retropharyngeal hematomas are more common than laryngeal hematoma. Laryngeal hematoma is a very rare complication—only two cases have been reported so far.<sup>1,2</sup> Laryngeal and retropharyngeal hematomas have a potential for fatal outcome owing to progressive internal blood loss and airway obstruction.<sup>6</sup> Initial presentation may be the only sore throat. So a high index of suspicion is needed for diagnosis. Imaging may reveal the extent of hematoma. Confirmation is done by flexible endoscopy. Control of airway and reversal of coagulopathy using vitamin K

and fresh frozen plasma is the mainstay of treatment.<sup>3</sup> Intubation may be dangerous and can cause further trauma and hematoma, so cricothyroidotomy and tracheostomy may be needed in selected cases to secure the airway. Large retropharyngeal hematomas may have to be drained like in our second case. Sublingual and laryngeal hematomas may need only conservative management if airway is secured.

## CONCLUSION

A high index of suspicion of airway hematomas is needed in coagulopathic patients presenting with upper aerodigestive tract symptoms. Prompt reversal of coagulopathy and securing the airway are the two main emergency concerns. Close monitoring of the patient is needed to prevent complications. Proper drug history is essential to correctly diagnose this rare entity.

## REFERENCES

1. Stacy W, Dan M. Spontaneous bilateral arytenoid hematoma in a patient on warfarin. *Am J Emerg Med* 1997 Nov;16(7): 674-676.
2. Ikeda R, Chiba T, Gorai S, Kobayashi T. Upper airway obstruction by epiglottis and arytenoids hematoma in a patient treated with warfarin sodium. *Auris Nasus Larynx* 2010 Feb;37(1):114-116.
3. Lim M, Chaudhari M, Devesa PM, Waddell A, Gupta D. Management of upper airway obstruction secondary to warfarin therapy: the conservative approach. *J Laryngol Otol* 2006 Feb;120(2):e12.
4. Cohen AF, Warman SP. Upper airway obstruction secondary to warfarin-induced sublingual hematoma. *Arch Otolaryngol Head Neck Surg* 1989 Jun;115(6):718-720.
5. Duong TC, Burtch GD, Shatney CH. Upper-airway obstruction as a complication of oral anticoagulation therapy. *Crit Care Med* 1986 Sep;14(9):830-831.
6. Seema S, Tarun S. Retropharyngeal haematoma—an unusual bleeding site in an anticoagulated patient: a case report. *Cases J* 2008 Feb;1(1):294.