

# Retropharyngeal hematoma mimicking retropharyngeal abscess

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## ABSTRACT

Bleeding from retropharyngeal space is relatively rare, and can be life threatening due to its close proximity to the upper airway. We report a case of a 59 year-old Chinese lady who had spontaneous retropharyngeal haematoma following warfarin anticoagulation that resulted in airway obstruction.

**Keywords:** Retropharyngeal haematoma, upper airway obstruction, retropharyngeal abscess, anticoagulation

## INTRODUCTION

Retropharyngeal haematoma may progress to upper airway obstruction if large enough. <sup>1</sup> The aetiologies of retropharyngeal haematoma include anticoagulation therapy, patient with bleeding disorders with spontaneous haemorrhage, as a complication of cervical trauma, neck surgery, foreign body, deep neck space infection, great vessels trauma or carotid aneurysm. In addition, violent neck movements that caused vomiting, coughing or muscular exercise have also been reported as aetiologies. <sup>2</sup> We report a case of spontaneous haemorrhage of the retropharyngeal space in a patient on anticoagulant therapy.

## CASE REPORT

A 59-year-old Chinese lady presented with

complaint of difficulty in breathing for the past three days duration, which were gradually worsened. Besides that, she also had anterior neck swelling, dysphagia with odynophagia, change in voice and mild grade fever. There was no history of trauma to the neck and foreign body ingestion.

She was a known case of diabetes mellitus and hypertension. Besides that, she was also diagnosed to have atrial fibrillation and had a history of cerebrovascular accident due to multiple cerebral infarct and was on oral warfarin 3mg daily for that.

On examinations, the patient was mildly tachypnoeic. She also had mild inspiratory stridor. There was a diffuse anterior neck swelling, which was tender with an area of bruises approximately 7 x 7cm over the left lateral side of the neck. There was also a small area of bruises on her anterior chest

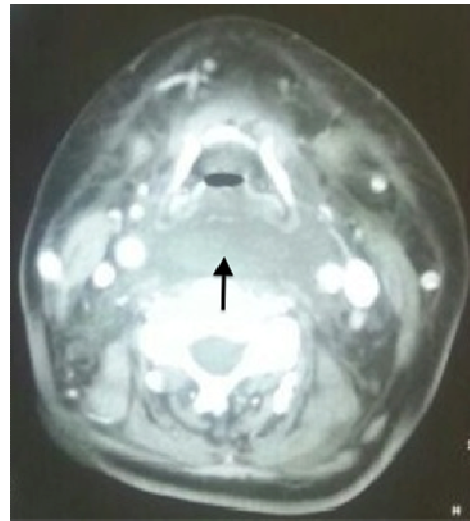
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wall. She has no trismus.

A full blood count showed haemoglobin 10g/dL with normal total white cell and platelet count. Her INR was 2.35, which was in the therapeutic range. A lateral neck x-ray revealed a significant widening of prevertebral shadow from the second cervical vertebra to seventh cervical vertebra. Computed tomography scan showed a retropharyngeal lesion extending to the mediastinum. The attenuation suggested the presence of an inflammatory mass with partial liquefaction and mediastinitis. The airway was significantly narrowed by 3mm to 5mm at the hyoid bone level. A diagnosis of retropharyngeal abscess was made base on the combination of history, physical examination and radiological findings.

An emergency tracheostomy was done under local anaesthesia to secure the airway, followed by direct laryngoscopy under general anaesthesia. The pharyngolarynx were noted to be markedly edematous and the vocal cords could not be visualised. A small incision was made at the posterior pharyngeal wall draining a small amount of clotted blood, however there was no pus. A nasogastric tube was inserted at the end of the procedure. Postoperative diagnosis of retropharyngeal haematoma was made.

Patient was admitted to intensive care unit post operatively for observation. She was started on intravenous cefuroxime and metronidazole since before operation. After 24 hours she was transferred to the general ward. Full blood count and coagulation profile was repeated and was within normal range. Her warfarin was stopped.



**Fig 1: Axial computed tomography image showed the airway narrowing at the level of hyoid bone and a retropharyngeal hematoma (arrow).**

On the third postoperative day her anterior neck swelling and the bruises at the left lateral neck has reduced in size. On the fifth postoperative day we did a flexible nasopharyngolaryngoscopy and showed bruises at the epiglottis region with normal and mobile vocal cords. The edematous pharyngolarynx was markedly subsiding. A serial repeated lateral neck x-rays showed marked reduction of widening of the prevertebral shadow. Final diagnosis of retropharyngeal hematoma was made. On seventh postoperative day her tracheostomy was successfully weaned off and nasogastric tube was removed. Patient was able to tolerate orally and discharged well on day ten of admission.

On follow up after one week the clinical examination showed resolved anterior neck swelling and neck bruises. We repeated the flexible nasopharyngolaryngoscopy showed a normal larynx with complete resolution of bruises over the epiglottis. Repeated lateral neck x-ray also showed complete

resolution of widening of the prevertebral shadow. She was followed up monthly and after three month she was discharged well.

## DISCUSSION

Bleeding is the most frequent complication following anticoagulant therapy, with the most common sites are skin, intracranial cavity, gastrointestinal and genitourinary tracts. The upper aerodigestive tract is not a frequent site of involvement.<sup>3</sup> Locations of upper airway anticoagulation-induced hematoma, which have been reported, were the peritonsillar space, the submandibular space, the sublingual space, the parapharyngeal and retropharyngeal spaces, the vocal cords and the arythenoids.<sup>2, 4-6</sup>

There are many risk factors associated with anticoagulation-induced bleeding, for example vitamin K deficiency or changes in dietary fat which can influence INR level<sup>6</sup>. Medical illnesses such as hyperthyroidism and liver dysfunction can increase anticoagulation effect from warfarin.<sup>7, 8</sup>

The classical clinical features of retropharyngeal hemorrhage are known as 'Capp's Triad', which consists of subcutaneous bruising in the anterior neck and upper thorax, anterior displacement of trachea on lateral cervical radiograph, and evidence of tracheal and esophageal compression from symptoms such as dysphagia, odynophagia and dyspnoea and findings from flexible laryngoscopy.<sup>1, 9, 10</sup> In our case, the patient presented with classic features of retropharyngeal hemorrhage. In general, the retropharyngeal space should measure one third to half of the cervical spine width even though there are guidelines for the measurement, and an increase in

the soft tissue width with anterior displacement of trachea would suggest some pathology in the retropharyngeal space.<sup>1, 10, 11</sup> Radiologically, it is difficult to differentiate between retropharyngeal hemorrhage and abscess. So the differentiation is made based upon clinical features for instance absence of fever, no elevated white cell count to suggest infection and the presence of right clinical context of hypercoagulable state.<sup>1, 10</sup> This patient had mild fever, but she did not have raised white cell count.

The literature suggests treatment of retropharyngeal hematoma is directed towards airway control and followed by close observation, and surgical evacuation is usually reserved for cases of expanded hematoma or those who does not resolve within 2-4 weeks.<sup>1, 9-12</sup> However, since our patient presented with upper airway obstruction and we initially thought of possibility of an abscess, so we proceeded with an incision and drainage.

In conclusion, a rare case such as retropharyngeal haematoma may be difficult to distinguish from an abscess due to mixture of clinical manifestations. As for our case, the presence of subcutaneous bruising and anticoagulant could lead us to the possibility of retropharyngeal hematoma as a more likely diagnosis.

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