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Case report

Retropharyngeal haematoma following thrombolytic therapy with Tenecteplase for acute myocardial infarction: a case report

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Abstract

Retropharyngeal haematomas (RPHs) are rare but can give rise to life threatening acute airway obstruction andrequire prompt diagnosis and management. Its clinical presentation is not always straight forward. Majority of RPHs are managed conservatively while few need surgical evacuation. We present a case of a 41-year-old male who needed surgical evacuation of RPH following single dose of Tenecteplase (rt-PA) for acute ST elevation myocardial infarction. We present this case because of its rarity with thrombolytic therapy.

Key words: Thrombolytic therapy, Tenecteplase,Retropharyngeal haematoma

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Introduction

The retropharyngeal space is a potential space in the neck which is an uncommon and rare site forhaemorrhageand haematoma formation. The immediate clinical importance lies in its close relationship to the upper airway. Therefore, securing the airway is given priority before any definitive treatment of retropharyngeal pathologies.

Clinical presentation of retropharyngeal haematomas(RPHs) depends on size and the speed of the haematoma formation. They present with a history of odynophagia, dysphagia,sorethroatand muffled voice.Hoarseness, breathing difficulties and stridor either alone or in combination is seen when there is a significant airway narrowing[1].There may be associated neckoedema and bruising which make the diagnosis more obvious[1]. Tracheal and oesophageal compression, anterior displacement of the trachea, and subcutaneous bruising over the neck and anterior chest are referred as “Capp's triad” of cervicomediastinal haematomas[11].
Sustained cervical trauma [1], whiplash injuries [3], violent coughing and sneezing[2], anticoagulant therapy[4,5], haemorrhagic diathesis[6], iatrogenic injuries [8],neck space infections, foreign body impaction and carotid artery aneurysm [9] are known causes of RPHs.

Case report

A 41-year- old gentleman presented to the emergency treatment unit with a history of chest pain, faintishness and headacheand was diagnosed to have an acute inferolateral STEMI. An urgent non-contrast CT brain excluded intracranial haemorrhage and acute STEMI was treated with single dose of IV Tenecteplase (rt-PA) for thrombolysis.Enoxaparin twice a day and a regular dose of dual antiplatelet (aspirin, clopidogrel) was started. He had developed mild dysphagia from day 01 of thrombolysis andthis progressed to total dysphagia on day 04and he also developed a neck swelling with no fever. Then ENT opinion was sought.

On examination, airway was stable. The fibre optic laryngoscopy (FOL)revealed bulging in the posterior pharyngeal wall. The plain x-ray showed a widening of the retropharyngeal space.

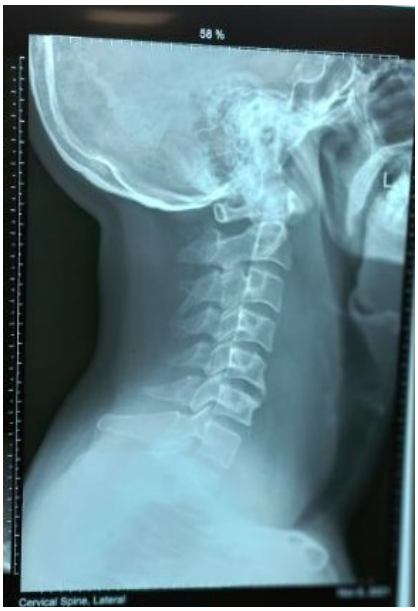

Figure 1: x-ray neck soft tissue lateral shows widening of retropharyngeal space.

The ultrasound scan neck identified retro pharyngeal haematoma of 2cm*x4.4cm*8.6cm with compression of oesophagus without significant airway narrowing. Therefore, he was managed conservatively with close monitoring until the CECT of the neck is done. His basic investigations were within normal range with INR- 1.39, APTT- 26.8 s, Hb % -12.4g/dl and platelet count -306x 10^9/L.

CECT detected a retropharyngeal collection with layering effect measuring 4cm*5cm*19cm extending to the superior mediastinum with oesophageal compression. The trachea was compressed at the root of the neck (<50%).

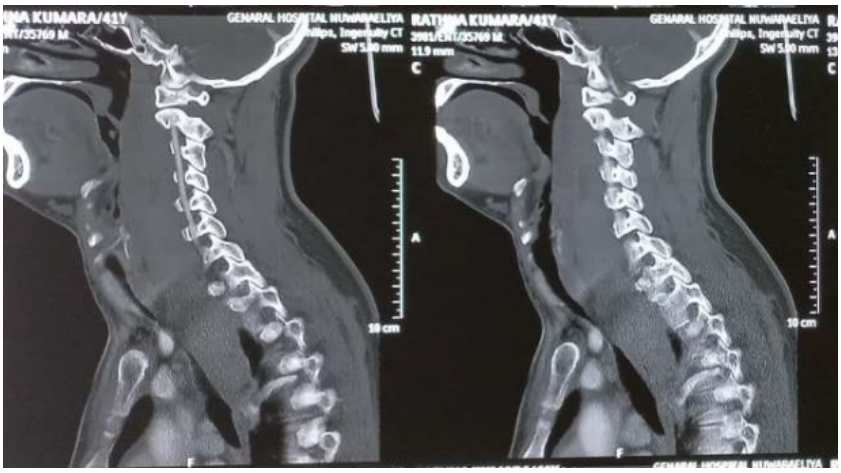

Figure 2: CECT shows a large retropharyngeal heamatoma which extended to superior

Since the haematoma was expanding and impending airway narrowing,evacuation of the RPH was done via a longitudinal incision along the anterior border of the left sternocleidomastoid muscle on the day 06 following the thrombolysis. A suction drain was inserted to the surgical site and a NG tube was inserted. IV antibiotics (cefotaxime and metronidazole) was started.
The post-operative monitoring was done in the ICU for 48 hours. He was extubated and drain was removed after 48 hours.Aspirin and clopidogrel were restarted on post-operative day 10. IV

antibiotics were continued for 2 weeks, and NG feeding was done for 2 weeks. The patient was discharged from the hospital on post-operative day 14 after re-establishing the normal enteric feeding.

Discussion

Retropharyngeal space, bounded by middle and deep layers of cervical fascia, extends from base of skull to the superior mediastinum at T 2 level[14].Prompt diagnosis is essential as RPHs can give rise to airway obstruction at different levels. Although rare, it should be considered as a differential diagnosis if a patient present with vague symptoms of dysphagia,odynophagia, sore throat, difficulty in breathing and dysphonia with history of cervical trauma, coagulopathy or anticoagulant therapy[14].

Plain radiograph of neck shows widening retropharyngeal space and loss or inverted cervical lordosis in a patient with RPHs. Fibre optic laryngoscopy(FOL) will show adequacy of airway and gives clues of level of airway obstruction. Even a small bulging of posterior pharyngeal wall guides clinicians to exclude any retropharyngeal pathology[14]. Ultrasound scan can also detect a variable amount of internal echoes in early haematomas although sonogaphical features are not specific[12].Contrast enhancing CTalso can detect RPHs as high-density mass with layering effect with superior component containing low density material without peripheral enhancement, but this is also not specific. Although MRI identifies acute and sub-acute blood products and can identify haematoma objectively, it is not freely available[11].

Our patient presented with dysphagia and neck swelling followinga single dose of Tenecteplase (rt-PA) therapy forthrombolysis following MI along with enoxaparin, aspirin and clopidogrel. Although Tenecteplase is associated with frequent intracranial bleeding, it is not reported causing RPHsin the recent literature.

There should be a very low threshold to management of airway in suspected cases as they can have rapid deterioration and compromised airway[14].According to literature, most of the small, nonexpanding haematomas without airway narrowing have been managed conservatively. However, large expanding haematomas with impending airway obstruction or large haematomas which fails to improve with medical therapy may need surgical evacuation [13]. In the literature, there is no clear consensus regarding management of RPHs.

Conclusion

RPH is rare pathology which can give rise to complete airway obstruction, and it is even rarer with Tenecteplase therapy for thrombolysis. The management should be tailored to individual presentation with early airway management. Although majority of RPHs are managed conservatively, an inadequate response to medical therapy, need for artificial airway support, in the presence of a large,non-resolving RPH, should be clear indications for surgical intervention.

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