

Case Report

Spontaneous Retropharyngeal Hematoma in a Patient with Elongated Styloid Process - A Case Report

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Abstract

Background: The styloid process is elongated in up to 7% of the population, in most cases bilaterally. Symptoms result from the compression of nerves as well as the carotid artery and are summarised under the term “Eagle Syndrome”. A probable vascular rupture due to styloid elongation has not been described so far.

Case presentation: We present the case of a 28-year-old patient with acute onset of right cervical pain and hemoptysis after a neck rotation to the left. An emergency CT scan of the neck revealed significant retropharyngeal swelling with a focal spot sign seen on CTA as an indicator of active bleeding. In addition, a directly adjacent elongated styloid process was detected. Subsequent MRI excluded pharyngeal rupture, neoplasm or abscess. The patient was managed conservatively and could be discharged from the hospital into outpatient care within one week.

Conclusion: We present a case of arterial bleeding into the retropharyngeal soft tissues probably caused by an elongated styloid process.

Keywords: Styloid process; Eagle’s syndrome; Retropharyngeal hematoma; Arterial bleeding

Introduction

Retropharyngeal arterial bleeding is an unusual entity with potentially severe consequences due to the close positional relationship to the airways. It is usually associated with trauma, coagulopathies, vascular malformations or severe infections [1,2]. We report a case of spontaneous acute retropharyngeal arterial hemorrhage, probably caused by a significantly elongated styloid process.

Case Presentation

A previously healthy 28-year-old male patient was admitted to the trauma room of our hospital (Klinikum Nuernberg South) with the rescue service. He complained of a sudden onset of dysphagia, swelling of his throat and hemoptysis after rotating his neck to the left. The patient was afebrile and fully oriented. Forceful vomiting or any kind of trauma was credibly denied. The swelling of the neck could be palpated. An emergency Computed Tomography with Angiography (CTA) was requested and was performed with intravenous contrast administration in arterial and portalvenous phase. Due to persistent heavy bleeding from the throat the patient was intubated directly after the CT-scan.

Imaging showed a massive swelling of the right retropharyngeal space with a discrete punctuate hyperdensity in the arterial phase, increasing in the portalvenous phase (Figure 1).

A foreign body or a pharyngeal tear as well as acute fractures or arterial dissection could be excluded. A bilateral elongated styloid process (48 mm) was detected, accentuated on the right side approximately 2 cm lateral to the bleeding spot (Figure 2).

He was transferred to the intensive care unit for monitoring. With continuous stable vital signs, the patient was extubated in the course of time. No further hemoptysis was observed and a spontaneous tamponade was postulated. A subsequent MRI (Magnetic Resonance Imaging) was performed and an underlying tumor or abscess could definitely be excluded. Laboratory diagnostics showed no signs of a coagulation disorder or vasculitis. The patient was discharged to outpatient follow-up within a week.

Discussion

The styloid process is an osseous structure rising from the temporal bone and its length and configuration can vary [3-5]. In addition, the degree of calcification of the stylohyoid ligament contributes to the maximum length. In literature, a length up to 25 mm is considered normal, a length of more than 30 mm as elongated [3,6]. Therefore, the styloid process of our patient can clearly be considered elongated.

However, the elongation of the styloid process is a frequent and usually incidental finding on imaging. Depending on the literature, up to 7% of the population is affected, but the vast majority is asymptomatic [3,4]. In a minority of patients, the elongated styloid process can cause compression of arterial or neural structures. This has been termed “Eagle Syndrome” [3-7]. Typical symptoms are orofacial and neck pain, but strokes and dissections have been described as well. There are also case reports on venous compression with perimesencephalic subarachnoidal hemorrhage [5,7,8]. Our patient reported to be previously healthy, we therefore conclude that his elongated styloid process did not cause any symptoms until then.

To our knowledge there has been no case report of arterial bleeding due to an elongated styloid process so far. Other case reports on retropharyngeal hematoma are caused by serious infections, acute trauma, underlying coagulopathies or neoplasms. A sudden local

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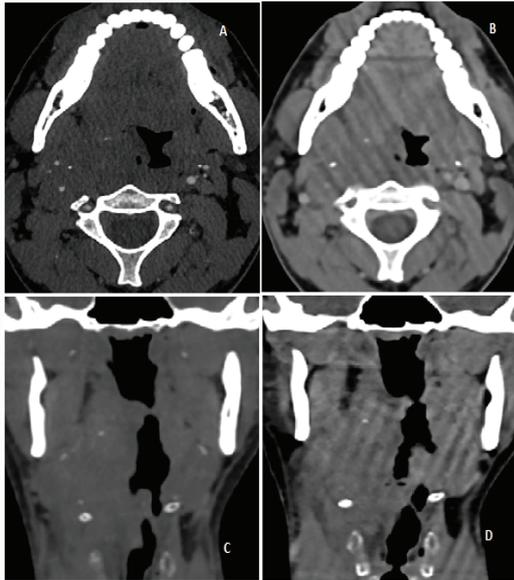


Figure 1: Axial (A,B) and coronal (C,D) CT-images of the neck. Right sided retropharyngeal swelling with a small hyperdensity (white arrow; spot-sign) in the arterial phase (A,C), increasing in the portalvenous phase (B,D).

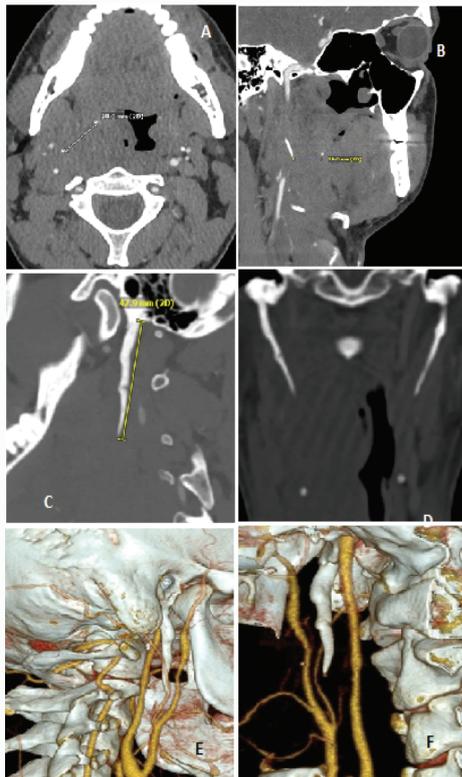


Figure 2: Axial (A) and reformatted curved sagittal (B) images highlight the close relationship between the styloid process and the bleeding site (in mm). Sagittal and coronal images (C,D) show the bilateral elongated styloid process. VRT (Volume Rendered Technique) images (E,F) demonstrate the elongated right styloid process and its relationship to the arterial vessels.

change in pressure could also be responsible for the bleeding [1,2]. But laboratory workup as well as the CT and MRI-scan did not reveal any of these pathologies. The patient credibly denied forceful vomiting. Looking at the anamnesis (neck rotation to the left) we therefore assume that the styloid process is the most likely cause of the bleeding.

Conclusion

To our knowledge this is the first description of a spontaneous retropharyngeal bleeding probably due to an elongated styloid process. We assume this to be another rare variant of an “Eagle syndrome”. We conclude that the styloid process should be carefully assessed in every unclear case of retropharyngeal hematoma.

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