Arytenoid Dislocation and Spontaneous Pneumomediastinum Caused by a Heavy Cough

Şiddetli Birkaç Öksürüğün Neden Olduğu Aritenoid Dislokasyonu ve Spontan Pnömomediastinum

Öksürük, Aritenoid Dislokasyonu ve Pnömomediastinum / Cough, Arytenoid Dislocation and Pneumomediastinum

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Özet

Aritenoid dislokasyonu (AD) ve spontan pnömomediastinum (SPM), genellikle belirgin travmalar sonucu ortaya çıkan nadir antitelerdir. Şiddetli öksürüğün SPM'ye neden olduğu bilinmektedir fakat literatürde buna bağlı sadece iki AD vakası bildirilmiştir. Aynı hastada öksürüğe bağlı AD ve SPM birlikteliği hiç bildirilmemiştir. Biz bu yazımızda 38 yaşında sağlıklı bir erkek hastada 3-4 öksürük sonrası ortaya çıkmış AD ve SPM olgusunu sunduk. Hastamızda SPM konservatif tedavi ile tamamen düzeldi. Hasta, SPM kaynaklı olması muhtemel anestezi riskleri nedeniyle AD için önerilen cerrahi tedaviyi kabul etmedi. AD'nin düzelmemesine rağmen 1 yıllık takip sürecinde hastanın sesinde kısmi düzelme oldu. Sonuç olarak öksürük sonrası ses değişikliği şikayeti ile görülen bir hastanın laringotrakeit ile ayırıcı tanısında AD akılda tutulmalı ve laringoskopisi mutlaka yapılmalıdır. Bunun yanında idiopatik olduğu düşünülen eski AD vakalarında şiddetli öksürük hikayesi mutlaka sorgulanmalıdır. Ayrıca AD ve SPM'nin birlikte bildirildiği vakamız göstermiştir ki, erken dönem AD vakalarında SPM de araştırılmalı ve varlığında AD tedavisini olumsuz etkileyebileceği bilinmelidir.

Anahtar Kelimeler

Aritenoid Dislokasyonu; Pnömomediastinum; Öksürük

Abstract

Arytenoid dislocation (AD) and spontaneous pneumomediastinum (SPM) are rare entities that are usually thought to occur as complications of distinct trauma of upper aerodigestive tract. It is well known that, SPM can caused by severe cough, but only two AD cases due to coughing has been documented and AD accompanied SPM has not been described so far in the literature. We describe an unusual association of AD and SPM caused by a small number of severe cough (3-4 times) in 38-years old healthy man. SPM fully recovered with conservative treatment. The proposed surgical treatment for AD was not accepted by the patient due to the potential risks of SPM duration anesthesia. Therefore, there was no improvement in AD although some improvement in his hoarseness, during the 1-year follow-up. In conclusion, when a patient with hoarseness after coughing is seen, AD should be kept in mind in the differential diagnosis of laryngotracheitis and laryngoscopy should be performed. The story of severe coughing should well be questioned in patients with possible idiopathic AD. Our case, the first reported case of accompanied AD and SPM, suggested that, SPM should be investigated in patients with early stage AD and the presence of SPM may adversely affect the treatment of AD.

Keywords

Arytenoid Dislocation; Pneumomediastinum; Cough

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Introduction

Arytenoid subluxation (AS) and arytenoid dislocation (AD) are rare entities that occur mainly after external (particularly blunt trauma) or internal (particularly post-intubation) injury to the larynx [1]. AD refers to complete separation of the arytenoid cartilage from the cricoarytenoid joint space, and it usually results from severe laryngeal trauma. AD is more rarely injury than AS [2].

Pneumomediastinum can be considered in two groups: spontaneous pneumomediastinum (SPM) without an obvious primary pathology, and secondary pneumomediastinum with a variety of intrathoracic and extrathoracic causes such as trauma, infections and esophageal perforation. SPM is an uncommon and rare clinical entity. The more common suspicious etiological factors of SPM involve asthma exacerbations, infection, and coughing related Valsalva maneuvers [3,4].

To our knowledge, AD and SPM caused by cough has not been described so far in the literature. We present AD and SPM in 38-years old healthy male patient caused by a small number of severe cough, a rarely etiologic factor for both of them.

Case Report

A 38-year-old male patient presented to otolaryngology service at our institution complaining of neck pain and sudden change of voice after a small number of severe cough (three or four times) during working in his farm. Laryngeal examination by 900 rigid endoscope revealed anteriorly displaced left arytenoid cartilage, submucosal hemorrhage in left aryepiglottic fold and immobile left vocal cord and saliva accumulation (Figure 1). There was no evidence of external neck trauma on physical

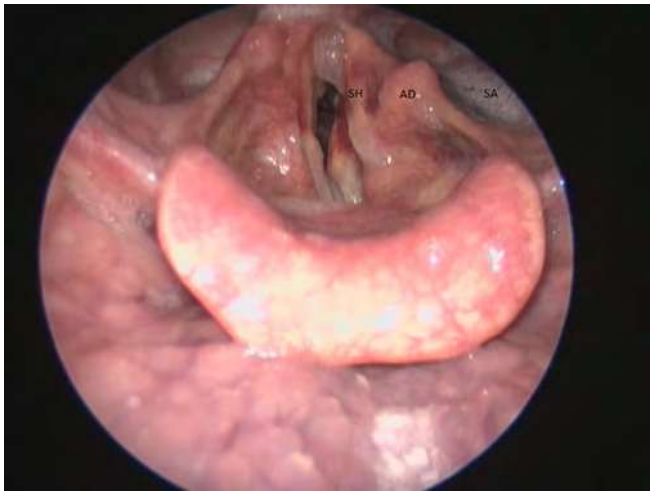


Figure 1. The endoscopic view showing left AD. SH; submucosal hemorrhage, AD; anterior displacement of left arytenoids cartilage, SA; saliva accumulation

examination. A multidetector (128 slice) computed tomography (CT) of the neck with contrast with two-dimensional (2D) reformation and three-dimensional (3D) rendering was performed. Coronal and axial sections of CT scan demonstrated anteroinferior displacement of the left arytenoid cartilage and pneumomediastinum (Figure 2-4). The patient was consulted with infectious diseases clinic and there was no intrathoracic infection. Thoracic surgery clinic suggested watchful waiting treatment for SPM and it fully recovered with conservative treatment. The patient had no complaint of cough when refered to our clinic

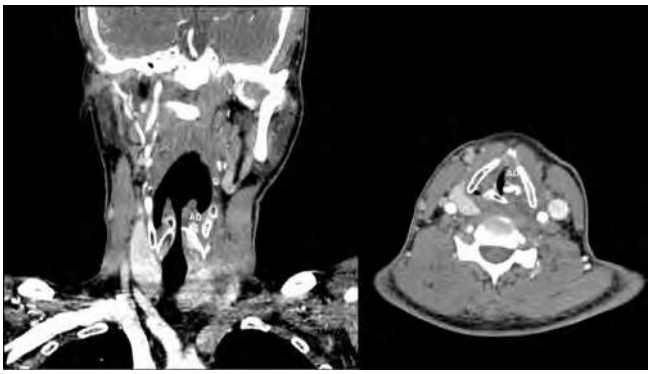


Figure 2. CT scan showing left AD in coronal and axial sections

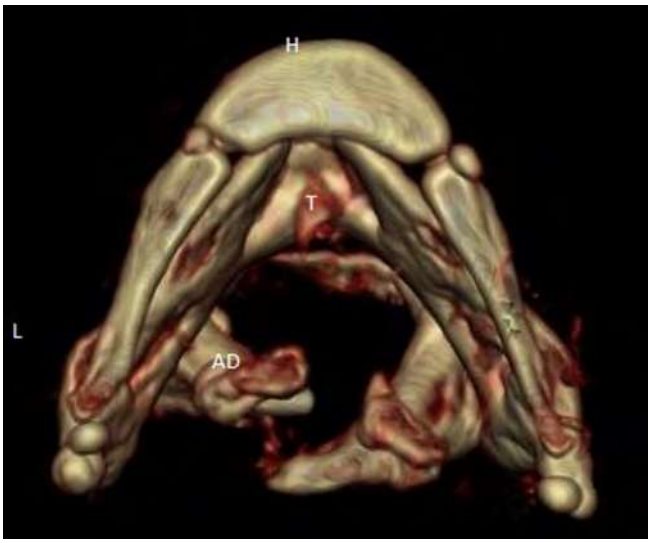


Figure 3. 3D CT scan showing left AD. H; hyoid, T; thyroid cartilage; AD; anterior displacement of left arytenoid cartilage

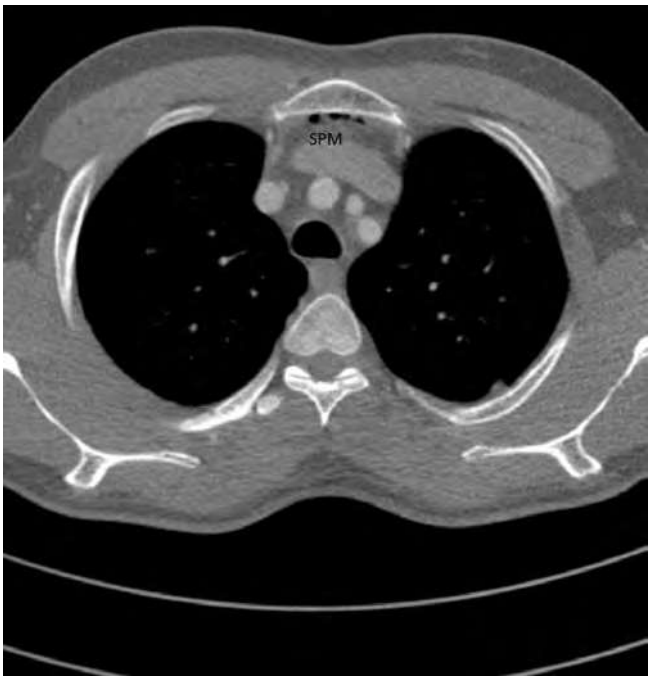


Figure 4. CT scan showing SPM in axial section.

and later. The proposed surgical reduction or reposition for AD was not accepted by the patient due to the potential risks of SPM during anesthesia. Therefore, there was no improvement in AD although some improvement in his hoarseness, during the 1-year follow-up.

Discussion

It is well known that, SPM can caused by severe cough and usually detected by imaging techniques in patients with a complaint of chest pain and dyspnea. Subcutaneous emphysema may be accompanied these symptoms. Also indicate a rapidly fatal course due to cardiovascular collapse [3,5]. Our patient had none of these complaints. There was a slight change in sound with a sore throat due to AD. Plain radiograph of chest was normal, but CT of the neck and chest demonstrated SPM and it fully recovered with watchful waiting treatment.

AD and AS are rare entities that occur mainly after external or internal distinct larynx traumas. Intubation trauma and idiopathic cases are the most common cause of AD, respectively. Time interval between the onset of complaint and applied to clinic is a few months for idiopathic cases [1]. The joint dislocation is not possible without a traumatic force or stress. A few cough caused AD in our patient. This situation suggest that a few several cough which unremembered or forgotten may be the cause of idiopathic AD.

Cough and hoarseness are mistakenly interpreted such as laryngitis or tracheitis because of these complaints often seen in patients with laryngotracheal inflammatory diseases and diagnosis of AD may be delayed or omitted, especially if laryngoscopy is not performed. For this reason, duration of cough and its association with hoarseness should be evaluated carefully and laryngoscopy should be performed.

In conclusion;

1. When a patients with hoarseness after coughing is seen, AD should be kept in mind with respect to differential diagnosis of laryngotrcheitis by physician especially in a primary health center.
2. The laryngocopy should carefully be performed.
3. The story of severe coughing should well be questioned in patients with possible idiopathic AD.
4. In addition, our case, the first reported case of accompanied AD and SPM, suggested that, SPM should be investigated in patients with early stage AD and the presence of SPM may adversely affect the treatment of AD.

Competing interests

The authors declare that they have no competing interests.

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