



Contents lists available at ScienceDirect

Respiratory Medicine Case Reports

journal homepage: <http://www.elsevier.com/locate/rmcr>

Case report

Hemotympanum post-bronchoscopy: An unusual complication!

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ARTICLE INFO

Keywords:

Basic bronchoscopy
Hemotympanum
Pulmonology

ABSTRACT

Diagnostic bronchoscopy with endobronchial ultrasound (EBUS) guided biopsy is the procedure of choice for visualization of bronchial airway and sampling of pulmonary lesions. While complications are relatively uncommon, they typically include hemorrhage, pneumothorax and/or infections. We report an unusual and unique complication, Hemotympanum following endobronchial ultrasound with biopsies. Occasional one or two reported cases of such a complication exist in literature. However, due to rare evidence, minimal awareness exist for its possibility, pathophysiology and measures of prevention.

1. Introduction

Diagnostic bronchoscopy with endobronchial ultrasound (EBUS) guided biopsy is the procedure of choice for visualization into bronchial airway and sampling of suspicious pulmonary lesions. While complications are relatively uncommon, they typically include hemorrhage, pneumothorax, infections, arrhythmia and/or respiratory failure[1,2]. We report an unusual and unique complication, hemotympanum following endobronchial ultrasound with biopsies.

2. Case description

53-year-old female with no significant past medical history of bleeding disorder or current use of antiplatelet or anticoagulation presented with complaints of chronic cough, shortness of breath and weight loss. She was found to have an obstruction of the right middle lobe of the lung with a 5.5cm mass along with accompanying right hilar adenopathy. Presentation was concerning for malignancy, thus warranting a bronchoscopy with EBUS and biopsy. For the procedure, patient received moderate conscious sedation with intravenous propofol, midazolam and topical xylocaine. During the procedure after biopsies were obtained, patient was noted to develop bleeding from the right ear which was self-limiting in nature. Upon otorhinolaryngologist evaluation, she was found to have dried bloody debris on the surface of right tympanic membrane. Post suction, the tympanic membrane was noted to be inflamed with granular and erythematous surface. She was recommended to use tobramycin and dexamethasone drops for 2 weeks. Hemotympanum resolved with this supportive care. The biopsy resulted

positive for invasive poorly differentiated adenocarcinoma of the right lung.

3. Discussion

While there are risks associated with every procedure, majority are well known and measures can be taken to circumvent complications. However, some complications are unpredictable as was presented here. Hemotympanum has been noted as one of the extremely rare complications post bronchoscopy, documented in only 1 or 2 prior cases in literature[3,4]. Bleeding in all such cases has been self-limiting, similar to our case. No definitive pathophysiology has been determined so far. A possible hypothesis is cough causing increased middle ear pressure which effectively contributes as barotrauma, thus leading to hemotympanum. The risk may be higher with increased size of the EBUS scope. This raises a question regarding the benefit of enhanced sedation or cough suppression in preparation prior to bronchoscopy. Due to very limited documented cases and self-limiting nature of the complication, this question remains answered. By reporting this case we aim to provide evidence of this extremely rare complication of a commonly performed procedure in respiratory medicine and potentially advance the discussion for preventing such cases through sedation or cough suppression.

Declaration of competing interest

The authors whose names are listed immediately below certify that they have NO affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject

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<https://doi.org/10.1016/j.rmcr.2020.101259>

Received 29 April 2020; Received in revised form 18 August 2020; Accepted 10 October 2020

Available online 16 October 2020

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matter or materials discussed in the manuscript titled “Hemotympanum Post-Bronchoscopy: An Unusual Complication”.

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