



Multiple Foreign Body Aspiration in an Adult

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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Case Study

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ABSTRACT

Aim: Foreign body aspiration in an otherwise healthy adult is a rare condition. We wanted to present our patient who could survive after aspirating multiple foreign bodies.

Presentation: A 50 years old man aspirated multiple stones and with the urgency operation removed the gravels and cleaned airway. He discharged the next day.

Discussion: Foreign body aspiration is very dangerous in both adult and children. In case of emergency, such as foreign body aspiration, either the airway should be intubated or the foreign body removed by rigid bronchoscopy.

Keywords: Aspiration; foreign body; dyspnea.

1. INTRODUCTION

Foreign body aspiration in an otherwise healthy adult is a very rare condition. Common symptoms are protracted cough, stridor, decrease in respiratory sounds and sometimes asphyxia due to complete obstruction. Imaging studies may be helpful, especially if the aspirated

object is radiopaque. Also, expiratory hyperinflation may be present secondary to obstruction. When in doubt of foreign body aspiration, rigid or flexible bronchoscopy is indicated as the second step to evaluate airways. Bronchoscopy is a safe and well-tolerated procedure under both local and general anaesthesia. For multiple foreign bodies, a long-

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lasting rigid bronchoscopy procedure may be a challenging procedure for a thoracic surgeon due to general anaesthetic gas inhalation. Herein we report a case of multiple foreign body aspiration into the left main bronchus.

2. CASE REPORT

A 50 years old man remained under a pile of sand and gravel for ten minutes while inspecting a construction site, was taken to emergency service with severe dyspnea. Physical examination revealed respiratory distress, decreased respiratory sounds on left hemithorax, ecchymosis on left shoulder and monoplegia on the left arm. The patient was taken to the left lateral decubitus position for preventing foreign bodies moving. Chest x-ray and computed thorax tomography (CTT) revealed left mainstem bronchus obstruction with multiple foreign bodies

(Fig. 1). The patient was taken to operation room urgently, and 16 pieces of gravels were removed from left mainstem bronchus by rigid bronchoscopy (Karl Storz, Tuttlingen, Deutschland) under general anaesthesia (Fig. 2). The operation lasted about sixty minutes. The patient's dyspnea improved just after the operation. He was discharged on the second day after surgery.

3. DISCUSSION

Foreign body aspiration is severe and potentially fatally a situation. The severity of the symptoms depends on the degree of airway obstruction. If the degree of blockage and oedema in the trachea or larynx due to foreign body increase, these cause a rapid death [1]. Besides, if it cannot be removed from airways in the first 4-9 weeks, it can cause bronchiectasis or pneumonia [2].

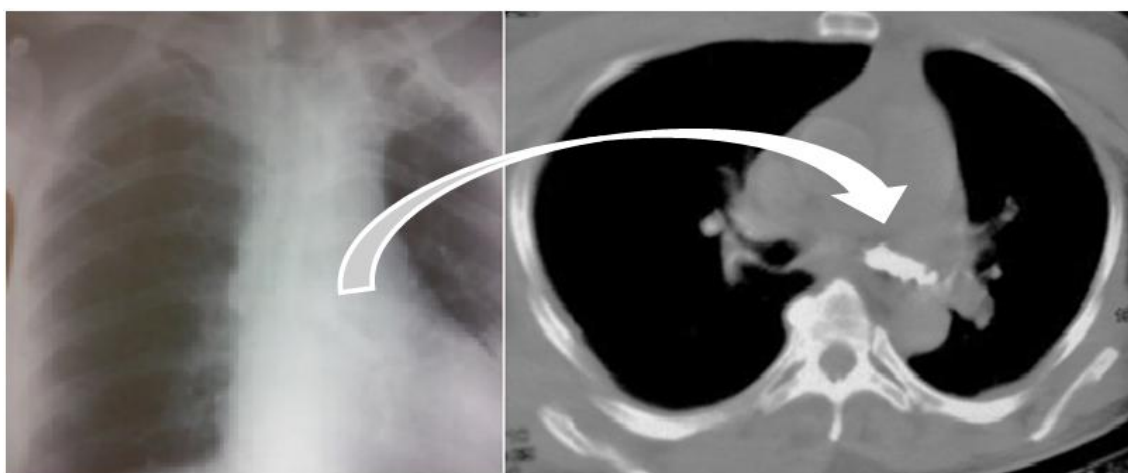


Fig. 1. Multiple radiopaque foreign bodies are seen in left mainstem bronchus (Portable chest x-ray and CTT)

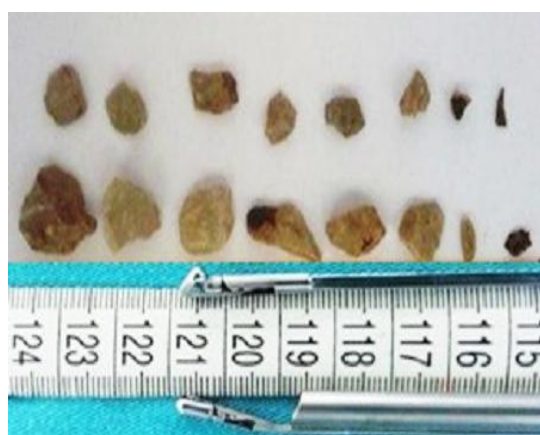


Fig. 2. Extracted multiple gravels and used forceps of rigid bronchoscopy

Adult foreign body aspiration is uncommon. These foreign bodies can be different sizes and structures, such as paper clip, staple, nail, bone fragments or turban pin [3]. Because of the anatomic angulation of the airways, it is seen less foreign body aspiration in the left main bronchus than in the right main bronchus. In adults, foreign body aspiration occurs in the right main bronchus at a rate of 69% [4].

Symptoms can appear suddenly or slowly. The especially little foreign body starts with a light cough. The cough degree is gradually increased after sputum is begun. Medical treatment is started. If the cough does not improve despite treatment, bronchoscopy is necessary. If cough and shortness of breath develop suddenly, we need to start the Heimlich manoeuvre to keep the airway open [5]. If the foreign body does not come out, we need to get the patient into the operating room immediately for a bronchoscopy. Both rigid and flexible bronchoscopy can be used to remove foreign body aspiration in the airway [3,6]. Fang et al. used for a foreign body in the lower airways underwent flexible bronchoscopy with different modalities, which included forceps, loop, basket, knife, electromagnet, and cryotherapy. However, they often referred to cases as a single foreign body aspiration [7]. For multiple foreign body aspiration, we preferred rigid bronchoscopy both to keep the airway open and to repeat the procedures. If the patient had a single foreign body aspiration and there is not extreme dyspnea, we choice would be fiberoptic bronchoscopy too.

4. CONCLUSION

This case shows the importance of a careful physical examination, fast diagnose, proper positioning and emergency intervention in the management of foreign body aspiration.

CONSENT AND ETHICAL APPROVAL

As per international standard guideline participant consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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