Case Report

Unusual presentation of Foreign Body Aspiration in Adult

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ABSTRACT

The present report introduces a 66-year-old male patient who was subjected to laryngectomy surgery for laryngeal squamous cell carcinoma seven months ago and he was referred for complaints regarding the metal tracheostomy tube inner cannula aspiration. The internal canula of the tracheostomy tube has been slid into the trachea during cleaning and placement for the break in its flange. He does not have any symptoms of dyspnea. An opaque object similar in shape to the tracheostomy tube was evident in the right bronchus of the patient in radiography of the patient's chest. The object was removed using rigid bronchoscopy. Foreign body aspiration might be completely symptomless, especially in adults. Exact historical data evaluation, clinical examination and imaging findings can help accurate diagnosis and treatment of the foreign body aspirations. On-time intervention minimizes the recurrence and mortality.

Keywords: Unusual foreign body aspiration, Metal tracheostomy tube, Adult

Introduction

Foreign body aspiration is a life-threatening accident that needs emergency intervention to secure the open airway and fast removal of the foreign body. [1] Unfortunately, the emergency measures should be taken within a few minutes to resume respiration in case of complete blockade of the airway and this is well-indicative of the crucial nature of the issue. [2] Tracheal and bronchial foreign body aspiration may be observed in all age groups but it is most often observed during childhood. Foreign body aspiration is an important health problem accounting for over 3000 deaths annually. Most of these patients are found with acute symptoms such as dyspnea and cough. In chronic cases, cough, sore throat and blood-tinged sputum have been documented. Aspiration might be tolerated for a long time in adults. Diagnosis is usually made possible through symptoms, radiography and bronchoscopy. Treatment is done by removing the foreign body from the respiratory system. Foreign body was for the first time removed from bronchus by Gustav Killin, a German specialist in ear, pharynx and nose diseases, in 1987. [3]

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Case Report:

The patient is a 66-year-old man who underwent laryngectomy surgery seven months ago for laryngeal squamous cell carcinoma and referred for complaints concerning metal tracheostomy tube inner cannula aspiration. For its being broken in its flange, the inner cannula of the tracheostomy tube was slid into the trachea when cleaning and inserting. The patient was admitted to emergency unit but he did not have any dyspnea symptom. No abnormal sound was heard during physical examination of both lungs. The patient did not even have any sign of infection and was very calm. The metal tracheostomy tube was clearly visible in his neck. An opaque body similar in shape to tracheostomy tube was evident in the right bronchus of the patient in radiography of the patient's chest (Fig 1). It was removed using rigid bronchoscopy. No traces of ulcer and scratch were evidenced in the internal wall of the tracheal tube.

Discussion:

Foreign body aspiration is a medical airway emergency necessitating on-time diagnosis and expeditious intervention. In rare cases foreign body aspiration can remain symptomless for a long time. The majority of the patients with foreign body aspiration are transferred to hospital within the first six hours post-aspiration. The knowledge and experience of the physicians to whom the patients refer play vital roles. In chronic cases, cough, recurrent infection or unimproved pneumonia for no clear-cut past records are the likely indicators of foreign body. Foreign body aspiration is prevalent in children and it is rarely seen in adults. About 75% to 85% of the cases occur in children below 15 years of age. The foreign body aspiration is most often evidenced for children below 3 years of age. Some of the studies carried out in the US and Europe show that the most common children's references for foreign bodies pertain to peanuts and foodstuff but the foreign body aspiration cases for the adults are mostly pertinent to tooth prosthesis and other foodstuff. Some disorders and post-laryngectomy or tracheostomy surgery problems might increase the risk of foreign body aspiration. The existence of tracheostomy stoma should also be added to foreign body aspiration risk factors in adults.

Right main bronchus is more exposed to the intrusion of foreign body since it is mostly vertically positioned and enjoys a diameter larger than the left lung. The type of the foreign body inhaled differs from a country to another. However, the most frequently inhaled foreign bodies are nuts, plant materials, bones as well as metal and plastic objects. Also, many of the unusual objects like doll parts, brooches, shawl pins, safety pins and plastic whistles can also be foreign bodies found in the bronchi. Broken tracheostomy cannula can also be found as an unusual foreign body in the tracheostomized patients. The patients usually refer to emergency services after aspiration. Foreign body aspiration can be sometimes symptomless and there are occasionally numerous symptoms like cough, dyspnea and blood-tinged sputum. The diagnosis of the airway foreign body aspiration entails a high index of clinical suspicion, especially in individuals who have no prior history of aspiration. Hidden foreign bodies can remain undiscovered for months and years and they are most frequently mistakenly diagnosed. 21.8% of the patients with foreign body aspiration are usually diagnosed rather lately (over 30 days). A past history, physical examination and radiological investigations are most often necessary and sufficient in foreign body aspiration diagnosis. Sylvia et al reported that the sensitivity and specificity of radiological imaging methods for foreign body aspiration are 73% and 45%, respectively. Ekrem reports a 72-year-old man who has been subjected to complete laryngectomy seven years ago and referred to emergency unit with complaints about silicone tracheostomy cannula aspiration. [4] He was found used to cleaning the secretions of upper respiratory tract with his finger through tracheostomy tube. Tola Bayisa reported a neck pin aspiration in a veiled Ethiopian girl. [5] Hashemi reported the knife blade aspiration in a 38-year-old youth. [6] Alia Qureshi reported a metal razor aspiration in a young 22-year-old man. [7] All of the abovementioned cases had been diagnosed easily in radiography. The majority of the foreign bodies cannot be seen chest radiography but they are easily visible in CT scan of the chest. The opaque foreign bodies like the one found in our patient's case are easily diagnosed in radiography. [8] Rigid bronchoscopy is still the most effective diagnosis and treatment method of foreign body aspiration. Rigid bronchoscopy features numerous advantages, including easy implementation, good imaging and possibility of controlling the respiration tract. [9] The rigid bronchoscopy can also be carried out in tracheostomy candidates even with no general anesthesia as was conducted in our case. [10] Flexible bronchoscopy is accompanied by many advantages and it is recommended to be taken as the first method in the majority of the mature cases. Rigid bronchoscopy is the treatment of choice for children.

Conclusion:

Early diagnosis of airway foreign bodies is critically important due to the particular role of lungs in respiration. The exact history of the patient, precise examination and radiography are necessary for the early diagnosis of respiratory tract's foreign bodies. On-time intervention minimizes the recurrence and mortality rates. Foreign body aspiration can be completely symptomless, especially in adults. A good past history and imaging findings can contribute to accurate diagnosis and treatment.

Conflict of Interests:

None of the authors have any conflict of interests, including financial and others.

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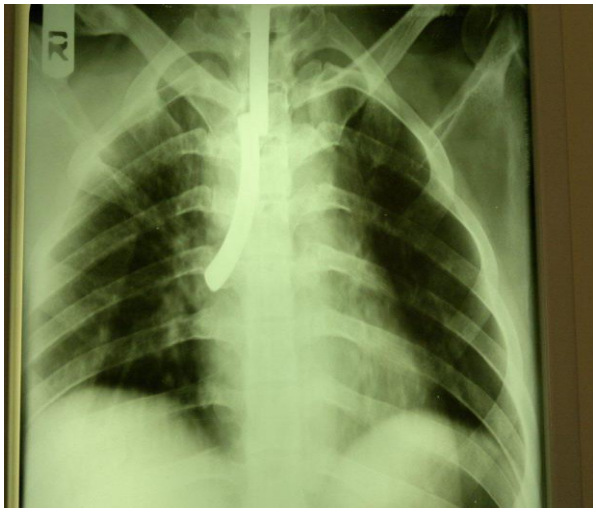

Figure 1: Foreign body in the right main bronchus

Disclosure of potential conflicts of interest:

We have no potential conflict of interest in this work. We carry out this study only for educative purposes.

Ethical approval:

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Additional informed consent was obtained from all individual participants for whom identifying information is included in this article