

Oxidized Nail Aspiration into The Left Bronchus At Building Worker And Retrieval of The Nail Via Fluoroscopy

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Abstract: Foreign body aspiration is a common emergency especially in childhood and constitutes major cause of mortality. It may be asymptomatic or occurs with serious complications and death. We present a 53 year old male building worker who aspirated an oxidized nail accidentally into his left bronchus while working and successfully retrieval of the nail via fluoroscopy. Emergency clinicians should always consider and handle acute foreign body aspirations as an emergency and immediately consult the patient with surgery clinic for immediate removal of the foreign body. Fluoroscopy may be beneficial for foreign body aspirations into the bronchus.

Keywords: Foreign body aspiration, emergency, building worker, nail, fluoroscopy, left bronchus.

INTRODUCTION

Foreign body aspirations in the tracheobronchial tree is common in children and rare in adults [1-3]. Especially in pediatric cases, a careful history, accurate diagnosis and initial care, safe retrieval of the foreign body have to be made immediately [4]. Clinical findings and symptoms may vary according to aspiration material such as fluid or particulate matter into the airways [5]. The most common organic bodies include peanuts, seeds and nuts, blades of grass or bone fragments [6-8]. Nail aspiration is rarely reported in adults [9].

Here we report a building worker male patient who had aspirated a oxidized nail to his left bronchus while working and retrieval of the nail via fluoroscopy.

CASE REPORT

A 53 year old building worker male patient had aspirated oxidized nail 2 hours ago while working and he admitted to government hospital and he was sent to our emergency service. He was holding a nail between his lips and he said it was happened while trying to talk. He has coronary by-pass history and had been smoking 30 packs/year. His vital signs were; TA:120/80mmHg, HR:86/min, BR:14/min, sPO2:92. His physical examination was normal including thorax auscultation. The radiopaque nail image was seen on his computed tomography (Figure 1A-B). He received tetanus immunisation and prophylactic antibiotic at the government hospital's emergency unit. We consulted the patient with chest surgery and the patient underwent to surgical room for retrieval of the nail. After

anaesthesia with propofol (2mg/kg), 8.5 rigid bronchoscope was used to see the nail. The oxidized metal was seen at the basal subsegment of the left bronchus, then the optic part of the device was removed. We reached the metal nail via fluoroscopy and retrieved it with forceps (Figure 1C-1D). No complications occurred after bronchoscopy and the patient was discharged after one hospitalisation day.

DISCUSSION

Foreign body aspirations are almost always seen in right bronchus system (60%), followed by right bronchus (23%), trachea/carina (13%), larynx (3%) and bilateral (2%) [10]. The nail in our patient was in left bronchus system.

Some complications may occur during retrieval of airway foreign bodies via bronchoscopy from the tracheobronchial tree [11-13]. Common complications are failure in removing the foreign body, laryngeal edema, pneumothorax, pneumomediastinum, subcutaneous emphysema, tracheotomy or assisted ventilation necessity for laryngeal obstruction or respiratory distress, hypoxic brain events, bradycardia, cardiopulmonary arrest and even death. [11-13]. We removed the foreign body from the patient under general anaesthesia, removed the nail via forceps and fluoroscopy and no complications occurred after the procedure.

Nohara *et al.* reported successful extraction from an airway of foreign bodies metal nails in three cases. Their all patients were carpenters, and similar to

our patient they often held nails between their lips. Nail was extracted via forceps in one of their patient, but this technique didn't work within the other one so they extracted it via video-assisted thoracic surgery. The third patient admitted 2 months late with cough and the X-ray revealed a nail in the right hilus and bronchoscopy showed the nail was buried in reactive granulation tissue in the right middle lobe bronchus. After medical treatment for seven days, the granulation tissue and mucosal edema had diminished, they extracted the nail successfully [9].

Similarly, San et al reported a total laryngectomy patient who had been aspirated a nail during stromal care. They removed three nails from the patient [14].

In literature, ratio and report of aspiration of radiopaque foreign bodies such as (screws, nails, needles or pieces of bones) in adults [15].

A careful history, clinical evaluation and radiologic imaging enables determining aspirated foreign body in the majority of cases. Foreign body aspirations may also be seen in healthy adults. Also, even though aspiration almostly seen in right brochus, it shouldn't be forgotten that it could also be seen in left bronchus. The main aim is determining the place of the foreign body and remove it immidiately. And emergency clinicians should elude tetanous immunisation and prophylactic antibiotic drugs for patients who aspirated metal foreign bodies especial nails because of oxidization risk.

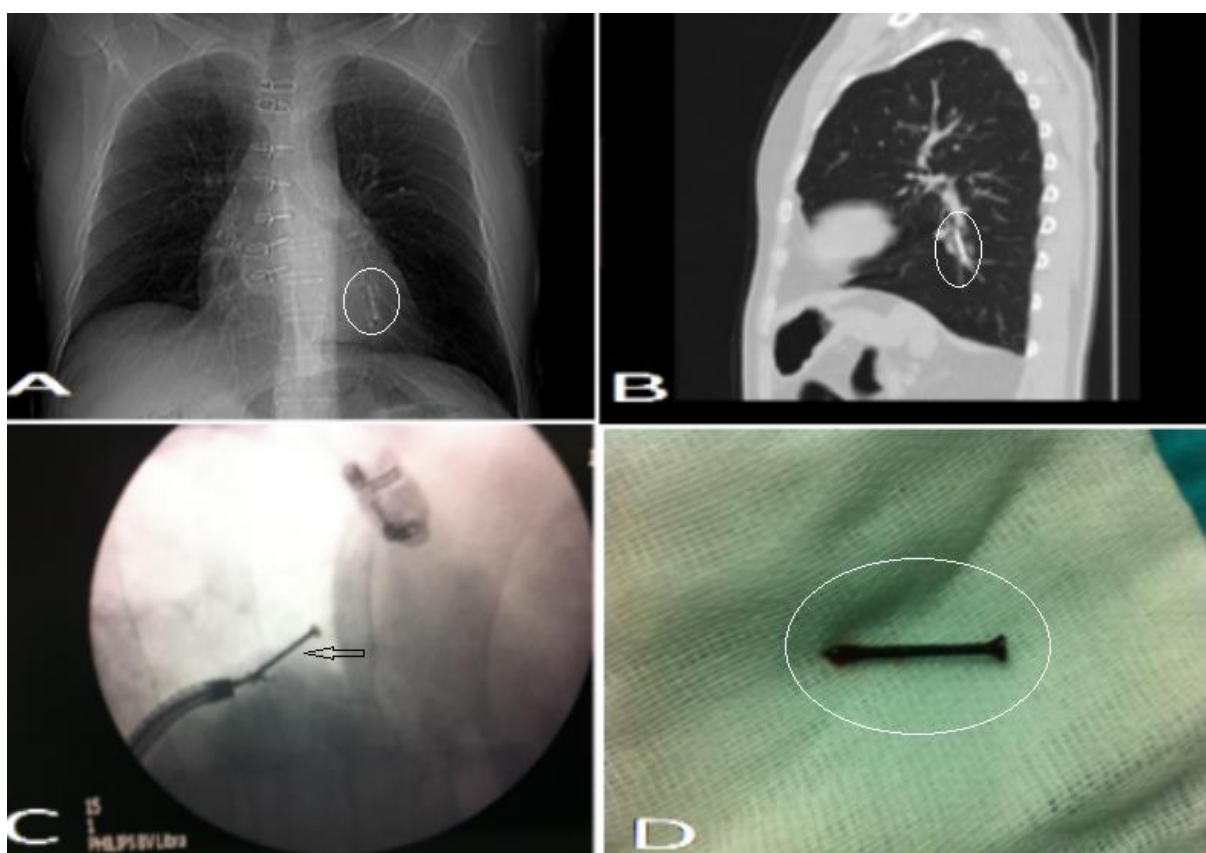


Fig-1: Images of the aspirated nail.

- A: PA Lung Radiography showing the nail in left lung**
- B: Computed tomography lateral section showing the nail in the left lung**
- C: Scopy image while removing the nail.**
- D: Nail image after retrieval.**

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