

Metallic foreign body migrating to the chest wall

Yucel Akkas, Ulku Eren Yazici, Ertan Aydin

ABSTRACT

Introduction: Foreign bodies are seen rarely in the chest wall because of this we want to present this case. **Case Report:** A 54-year-old male patient who did not have trauma and foreign body aspiration was admitted to hospital. Physical examination was normal. There was a radiopaque foreign body observed at the level of left anterior fourth rib in the radiological examination. The metal nail was removed by left anterior thoracotomy with partial rib resection. He was discharged postoperative fourth day. **Conclusion:** In those patients who have chest pain without foreign body history due to trauma, embedded foreign bodies through migration should be kept in mind. In such cases, the patient's occupation should be considered.

Keywords: Chest wall, Foreign body, Migration, Thoracotomy

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INTRODUCTION

Foreign bodies in the chest wall are seen rarely and there was no consensus for the treatment [1]. We wanted to present metallic foreign body case of chest wall which was found incidentally without any trauma and foreign body aspiration history.

CASE REPORT

A 54-year-old male was admitted to our clinic with left chest pain for two months. The patient's history did not have the trauma and foreign body ingestion or aspiration. He was a carpenter. On physical examination, there was no scar of the entrance hole of the foreign body on the chest. Electrocardiography and cardiac enzymes were normal. On radiological examination, there was a metallic foreign body in the left lung parenchyma at the level of anterior part of left 4th rib on posteroanterior chest X-ray but hemopneumothorax was not observed (Figure 1A). On computed tomography of thorax performed due to the detailed viewing of the localization of the foreign body, there was a radiopaque appearance belonging to the metallic foreign body under the 4th rib in the anterior part of the left chest wall, but hemopneumothorax was not observed (Figure 1B).

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Left anterior thoracotomy was performed for the patient. Intrathoracic adhesions were seen in the exploration and there was a metal nail fused with the rib under the left 4th rib. This metal nail was removed along with the rib by partial rib resection (Figure 2). The patient was discharged on the fourth postoperative day without any complications.

DISCUSSION

The etiology of the intrathoracic foreign body includes tracheobronchial aspiration, esophageal foreign bodies, penetrating trauma and iatrogenic cases [1, 2].

In our patient, there was no history of trauma and scar of the entrance hole of the foreign body on the body, but it was learned that the nails, which are used for glass, removed from the patient's chest wall were present in his work environment. This showed us that the patients was

injured with a nail without being aware of it and it moved under to rib through migration [3]. Not only the trauma history but also questioning of the patient environment is important.

Intrathoracic metallic foreign bodies can be easily displayed with radiological posteroanterior chest radiography and chest CT [2]. In our case, the metallic foreign body was identified as coincident with posteroanterior chest X-ray and chest CT scan. If we evaluated the patient only with posteroanterior chest radiograph, considering the absence of trauma history and hemopneumothorax, it may make us evaluate the patient as endobronchial foreign body caused by unnoticed aspiration and perform bronchoscopy as the first attempt. It was seen in thoracic CT scan that metallic foreign body was fused with 4th rib and seeing this changed the diagnosis and treatment process of the patient. It is not possible to be displayed non-radiopaque objects on the chest wall (wood, plastic, ...). It can be confused radiologically with other diseases radiologically such as posttraumatic pseudocyst, tuberculosis and Wegener's granulomatosis due to pleural thickening, abscess and fistula formation caused by the long stay of these foreign bodies in the chest wall [4]. Therefore, the history of trauma should be questioned particularly in these patients, while making the differential diagnosis, non-radiopaque foreign bodies should also be kept in mind and chest CT scan should be used as radiological imaging.

Intrathoracic foreign bodies can cause pneumothorax, hemothorax, chest pain, hemoptysis and recurrent infections [3, 4]. Our patient had only chest pain.

The most popular treatment in recent years for the treatment of intrathoracic foreign bodies is VATS (video-assisted thoracoscopic surgery) due to less postoperative pain, shorter length of stay in hospital [3, 5]. Thoracotomy was preferred for the cases with chest wall invasion and intrathoracic adhesions [1]. In our case, the metallic foreign body was fused with the 4th rib on the left radiologically, therefore VATS was not performed and thoracotomy and partial rib resection were performed.

CONCLUSION

Even if there is no history of the foreign body, foreign bodies stuck to the chest wall through migration must be considered in the differential diagnosis of the patients admitted with chest pain. In such cases, the patient's occupation should be considered.

Author Contributions

Yucel Akkas – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final

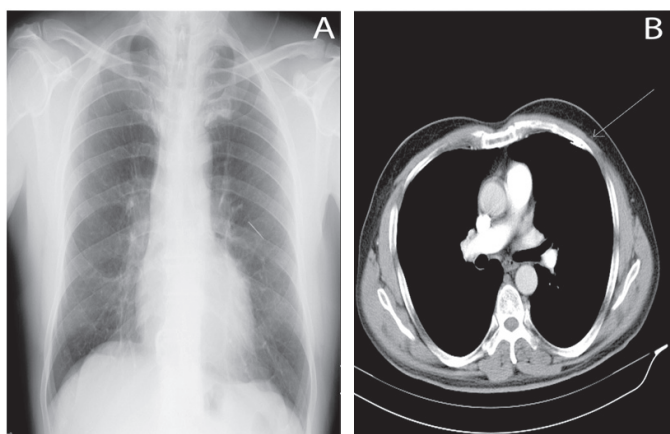


Figure 1: (A) On the chest X-ray, radiopaque foreign body at the level of anterior part of left 4th rib. (B) On the thorax Computed tomography, radiopaque foreign body fused with the rib.

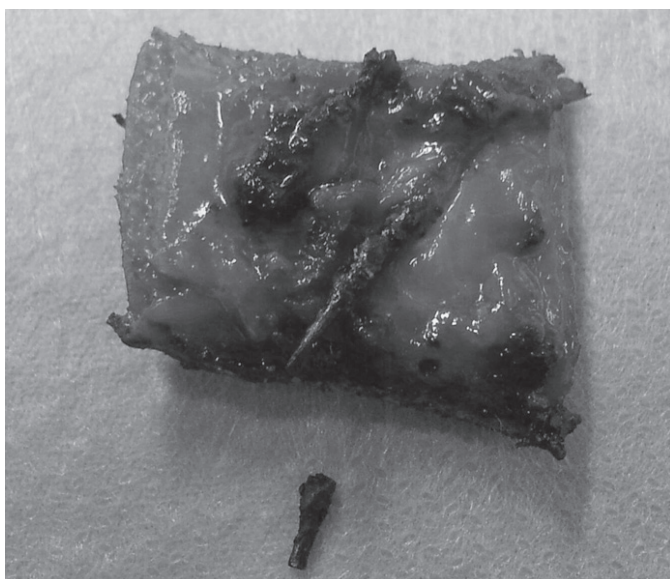


Figure 2: The image of partial resected 4th rib and metal nail which was fused to the rib.

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Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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