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**ABSTRACT**

**Introduction**

Foreign bodies were seen rarely in the chest wall because of this we want to present this case.

**Case Report**

Fifty-five years old male patient who didn’t have trauma and foreign body aspiration was admitted to hospital. Physical examination was normal. There was a radioopaque foreign body 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:** Foreign body, chest wall, thoracotomy, migration
TITLE: Metallic Foreign Body Incoming Migration to the Chest Wall

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

Fifty-four-year-old male patient was admitted to our clinic with left chest pain for 2 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 (PA) chest X-ray but hemopneumothorax was not observed (Figure 1A). On computed thorax tomography (thorax-CT) 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).

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 4th 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 shows 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 PA
chest radiography and chest-CT [2]. In our case, the metallic foreign body was
identified as coincident with PA chest X-ray and chest-CT. If we evaluated the
patient only with PA 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 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 imaging 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 treatments 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.
CONFLICT OF INTEREST

There is no any financial interest or any conflict of interest.

AUTHOR’S CONTRIBUTIONS

Yucel Akkas
Group 1 - Conception and design, Acquisition of data, Analysis and interpretation of data
Group 2 - Drafting the article, Critical revision of the article
Group 3 - Final approval of the version to be published

Ulku Eren Yazici
Group 3 - Final approval of the version to be published

Ertan Aydin
Group 3 - Final approval of the version to be published

REFERENCES

FIGURE LEGENDS

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-CT, 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.

FIGURES

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-CT, 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.