CASE REPORT OLGU SUNUMU

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Looking for a Needle in a Haystack A Rare Case with a Foreign Body in the Chest Wall

Samanlıkta İğne Aramak Göğüs Duvarında Yabancı Cisim Olan Nadir Bir Vaka

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ABSTRACT Sewing needles in the chest wall, which are rarely seen in clinical practice, can lead to life-threatening complications. A 34-year-old male patient presented with back pain and suspicion of foreign body. His anamnesis revealed that he had sewn his shirt with a sewing needle 2 days ago and had left the sewing needle on the edge of the couch and slept there. Physical examination revealed pain and tenderness in the lateral left scapula. A foreign body was detected in radiological imaging methods performed in the emergency department. The patient was taken into surgery in the prone position under deep sedation and the sewing needle was removed from the chest wall. The patient was discharged without any problems. Given the serious complications sewing needles can cause in the places they can reach, they need to be detected and removed early.

Keywords: Sewing needle; chest wall muscles; foreign body; surgery

ÖZET Klinik uygulamada nadiren görülen göğüs duvarındaki dikiş iğnesi, hayatı tehdit eden komplikasyonlara yol açabilir. 34 yaşında erkek hasta sırtta ağrı ve sırtta yabancı cisim şüphesiyle başvurdu. Anamnezinden 2 gün önce gömleğini dikiş iğnesiyle diktiği ve dikiş iğnesini kanepenin kenarında bırakıp orada uyuduğu öğrenildi. Fizik muayenede lateral sol skapulada ağrı ve hassasiyet görüldü. Acil serviste yapılan radyolojik görüntüleme yöntemlerinde yabancı cisim tespit edildi. Hasta derin sedasyon altında yüzüstü pozisyonda ameliyata alındı ve dikiş iğnesi göğüs duvarından çıkarıldı. Hasta herhangi bir sorun olmadan taburcu edildi. Dikiş iğnelerinin ulaşabildikleri yerlerde ciddi komplikasyonlara neden olabileceği göz önüne alındığında, erken tespit edilip çıkarılması gerekir.

Anahtar Kelimeler: Dikiş iğnesi; göğüs duvarı kasları; yabancı cisim; cerrahi

Sewing needles in the chest wall, which are rarely seen in clinical practice, can lead to life-threatening complications. Therefore, early diagnosis and removal is important.[1] The high dynamics and mobility of the chest elevate the probability of sewing needle displacement and migration.[2] Sharp-edged foreign bodies such as sewing needles can migrate within the body and if they pass through the thoracic wall into the intrathoracic region, they can occasionally cause serious complications such as hemothorax, hemopneumothorax, pneumothorax, diaphragmatic rupture, lung contusion, subcutaneous emphysema, pneumomediastinum, large blood vessel damage and thoracic wall lacerations.[3] It is recommended that foreign bodies be removed from the chest cavity as soon as possible before they cause complications.[4] In some

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studies, it has been stated how foreign objects migrate and reach the chest cavity.[3] Here, we present a case in which the sewing needle was caught at the edge of the rib while it was about to enter the chest cavity, migrating through large muscle groups on the left posterior chest wall, and was surgically removed without damaging the intrathoracic structures.

CASE REPORT

This study was conducted ethically in accordance with the World Medical Association Declaration of Helsinki as revised in 1964. For studies with human subjects include the following: All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008.

Study approval statement: This study protocol was reviewed by the Scientific Research Ethics Committee of Recep Tayyip Erdogan University Faculty of Medicine, and an exemption was granted without requiring ethical approval. Consent to publish statement: Written informed consent was obtained from the participant (or their parents/legal guardians/next-of-kin) for the publication of details of their medical case and accompanying images.

A 34-year-old male patient was consulted to us with back pain and suspicion of foreign body (FB). It was learned from his anamnesis that he had sewn his shirt with a sewing needle 2 days before and left the sewing needle on the edge of the couch and slept there. Physical examination revealed pain and tenderness in the lateral left scapula. The patient appeared anxious, but his vital signs were stable. Radiologic imaging performed in the emergency department revealed a FB approximately 45 mm in size in the lateral left scapula on the posterior-anterior chest radiography and lateral radiography (Figure 1A, B), and the patient underwent chest computed tomography (Figure 1 C, D, E, Figure 2A, B). Upon

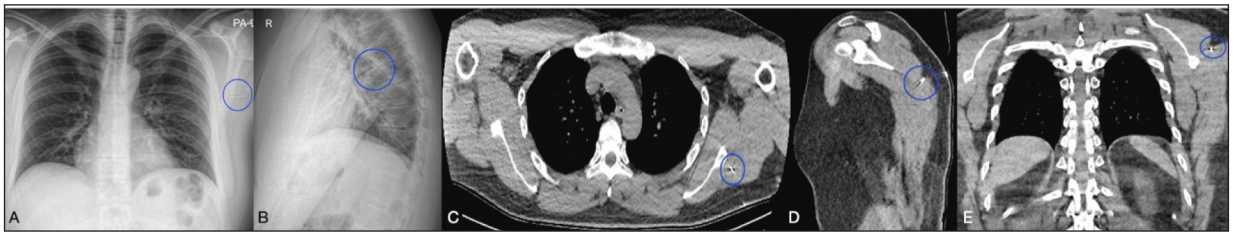

FIGURE 1: A) Postero-anterior chest radiograph and lateral radiograph; B) showing foreign body (blue circle) in the chest wall. Thorax CT axial; C) sagittal; D) and coronal sections; E) show a foreign body in the left posterior part of the chest wall (blue circle).

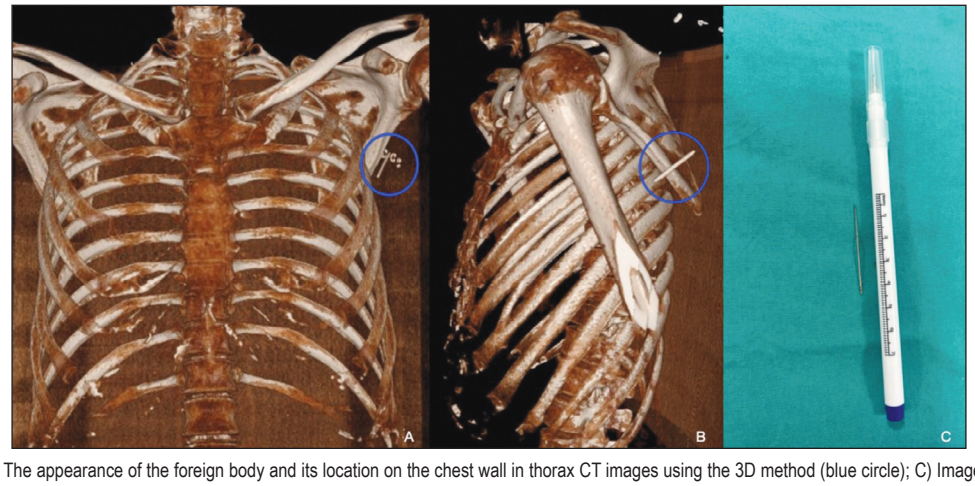

FIGURE 2: A, B) The appearance of the foreign body and its location on the chest wall in thorax CT images using the 3D method (blue circle); C) Image of the surgically removed foreign body (Sewing needle).

palpation of the FB by palpation, an attempt was made to remove the FB by making a 2 cm incision on the skin, but when the FB could not be reached, the thoracic surgery department was consulted. When the patient was evaluated, no FB was observed by inspection and could not be palpated manually. Ultrasonography was performed in the area where the FB was located. However, the FB could not be detected because its axis was perpendicular to the chest wall. The patient was operated in prone position with deep sedation. The muscles were dissected through the incision made previously and the FB was searched. With scopic imaging support, the FB was found adjacent to the costa. Approximately 40 mm long suture needle was removed from the thoracic wall (Figure 2C). It was observed that the FB moved between the large back muscles and advanced towards the thorax. The patient was followed up in the ward for 1 day. The patient was discharged without any problem.

DISCUSSION

Sharp-edged foreign objects, such as a sewing needle, in the chest wall, which are not common, can lead to life-threatening complications. Therefore, early diagnosis and removal is important.[1] The causes include trauma, self-inflicted injuries, and iatrogenic diseases, but are sometimes unknown.[3] Although the standard screening for suspected radiopaque foreign bodies in soft tissue consists of plain radiographs, ultrasonography is an important option due to its ease of use, accessibility, the ability to evaluate the FB in real time during the intervention, and its low cost.[5] Ultrasound has been proven in the literature to be a highly successful removal method.[6] The migration mechanism of foreign bodies is still not fully clarified. However, some reports suggest that this involves muscle activity, shoulder movements, respiratory movements, negative intrathoracic pressure, gravitational force, and capillary action.[7] In this patient, the needle entry point was in the left posterior thoracic region. However, the FB was found and removed when it was about to enter the thoracic cavity adjacent to the costal margin. In fact, at the time of initial presentation, the FB was adjacent to the skin entry site, but over time, it was observed that the sewing needle was displaced due to the movements of the large back muscle groups between which it was lodged. And we think that the sewing needle moved even further during muscle dissection to remove the foreign body. Since the sewing needle was opaque during the surgical procedure, we tried to locate it by imaging with the support of scopy, but although it was located, it was observed that it moved further each time when dissection was started. Considering these factors, muscle activity, chest wall movements during respiration, shoulder movements, and muscle dissection at the time of operation are the possible mechanisms involved in the migration of the FB in this case.

Various complications caused by sharp-edged foreign bodies enter the chest cavity have been reported, such as pneumothorax, hemothorax, hemopneumothorax, and empyema.[3] Among these, some complications such as pericardial tamponade, arrhythmias, pericarditis, pseudoaneurysm, aorto-pulmonary fistula, pneumothorax and hemoptysis may become potentially life-threatening, depending on the region where the FB reaches.[4] Interestingly, fortunately, in our case, the needle could only reach the costal margin between the large back muscle groups. The FB was removed from this area without causing any damage. We think that the reason why it did not enter the chest cavity and did not cause any complications was undoubtedly due to early diagnosis and intervention.

Sharp-edged foreign bodies in the chest wall are extremely important as they have the potential to migrate. Given the serious complications they can cause in the places they can reach, they need to be detected and removed early. Surgeons should know that they should analyze the location of the FB well before starting the operation and act accordingly.

Source of Finance

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Ömer Topaloğlu, Elvan Şentürk Topaloğlu;* ***Design:*** *Ömer Topaloğlu, Elvan Şentürk Topaloğlu;* ***Control/Supervision:*** *Ömer Topaloğlu, Elvan Şentürk Topaloğlu;* ***Data Collection and/or Processing:*** *Ömer Topaloğlu;* ***Analysis and/or Interpretation:*** *Elvan Şentürk Topaloğlu;* ***Literature Review:*** *Elvan Şentürk Topaloğlu;* ***Writing the Article:*** *Ömer Topaloğlu, Elvan Şentürk Topaloğlu;* ***Critical Review:*** *Ömer Topaloğlu, Elvan Şentürk Topaloğlu;* ***References and Fundings:*** *Ömer Topaloğlu, Elvan Şentürk Topaloğlu;* ***Materials:*** *Ömer Topaloğlu.*

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