Extremity foreign body injury presenting years after trauma: 2 case reports and review of literature

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ABSTRACT

Background: Extremity foreign body traumas are common injuries occurring symptoms after 10 years is a rare entity. We are presenting two cases as an example of this situation.

Case Presentation: In the first case, a 30-year-old male patient was admitted to the outpatient clinic with complaints of swelling and pain in the right forearm for 3 weeks. The patient had a history of foreign body injury after punching glass 10 years ago. Physical examination of the patient revealed a 4 cm incision scar in the anteromedial of the right forearm with swelling and tenderness. Radiological evaluation revealed a 3 × 1 cm-sized foreign body resembling a glass fragment. In the second case, a 36-year-old male patient was admitted to the clinic with swelling and pain in the left foot. Examination revealed tenderness in the first webspace. The patient had a history of foot injury with a nail 24 years ago. Both patients had removal surgery and complaints regressed in the postoperative clinical follow-up.

Conclusion: In these two foreign body injuries, symptoms that occurred years after injury and removal were necessary. It should be always kept in mind that foreign body injuries might cause late injuries, even years after. Therefore, these injuries should always be on mind.

Keywords: Foreign body, extremity, soft tissue injury, removal, glass, case report.

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Background

Extremity foreign body injuries are common injuries. It can be seen in a wide age range. It may cause clinical signs of an allergic reaction, inflammation, and local infection. It may not present acute symptoms in every case. The mechanism and region of injury may vary according to the environment and social situation. While wood fragments and thorns may cause injuries in rural areas, needle injuries at home and metal fragment injuries in the heavy industry can be seen [1]. Although lower extremity is reported as the most frequently injured area in the literature, it has been observed that upper extremity injuries are more common in the working population [1,2]. It is known to cause serious complications such as osteomyelitis and septic arthritis [3,4]. However, cases that become symptomatic many years after the injury have also been reported in the literature [5]. In this study, we presented two cases of foreign body injury presented years after the accident.

Case Presentations

A 30-year-old patient was presented to our clinic with localized right forearm pain and swelling for a month. The patient had pain in the right forearm when lifting weight. With the history of injury by punching through the glass 10 years ago, examination revealed tenderness and a skin scar measuring up to 4 cm on the volar anteromedial part of the mid-forearm. There was no discharge, blush, or rapid increase of swelling. There was no history of fever or loss of appetite. There were no restrictions on movements.

Anterior-posterior (AP) and lateral views of the forearm showed a foreign body and swelling at the previous injury site (Figure 1). No periosteal reaction or bony lesion was apparent. Radiologic and clinical evidence was compatible with a foreign body injury. Surgery was planned. After sterile preparation and application of local anesthetics, a 3-cm-long glass piece was extracted from an incision made on scar tissue (Figure 2). After removal, the patient was discharged the same day and called for follow-up. After a month, the symptoms were gone, and the patient was relieved.

In the second case, a 36-year-old patient was presented to our clinic with pain and swelling on the left foot for

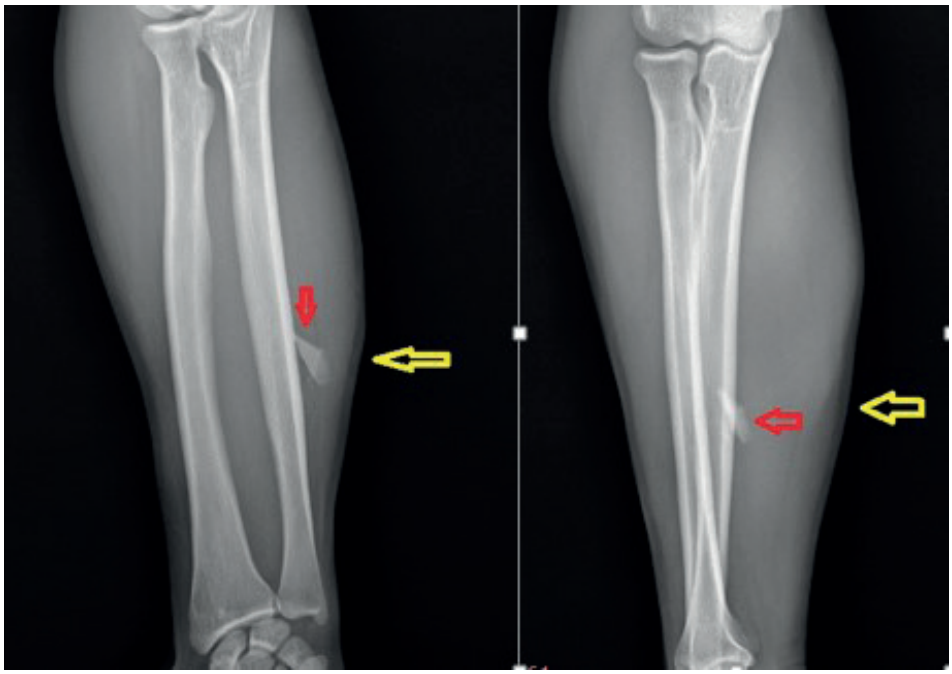

Figure 1. *Yellow arrow for soft tissue swelling and red arrow for foreign body.*

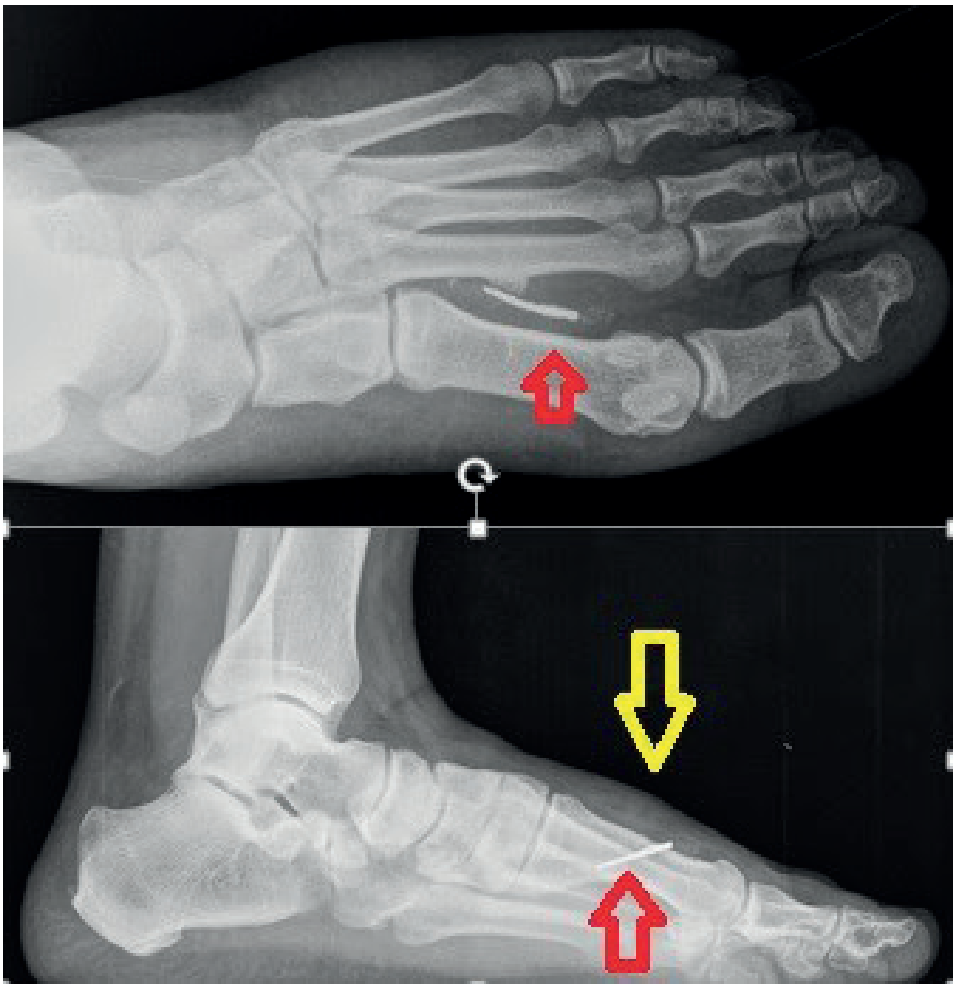

Figure 3. *Yellow arrow for soft tissue swelling and red arrow for foreign body.*

8 days. The patient had pain in the left foot when walking. Examination revealed tenderness and swelling in the first webspace. There was no discharge, blush, or rapid increase of swelling. There was no history of fever or loss of appetite. The patient gave a history of foreign body injury in the left foot with a nail 24 years ago. His complaints started 2 months after he started jogging.

Figure 2. *Surgery revealed an approximately 3-cm long glass piece.*

AP and lateral views of the forearm showed a foreign body and swelling at the previous injury site (Figure 3). Surgical removal was planned. Under local anesthesia, a 2.5-cm-long metal nail piece was extracted from the incision made on the swelling site (Figure 4). The patient was discharged the same day and called for follow-up. After a week, the symptoms were gone.

Discussion

Foreign body injuries are frequently encountered in emergency rooms and orthopedic departments. Tissue damage, inflammation, infection are characteristic signs of such an injury. Delayed wound healing, toxic, or allergic reactions associated with the type of foreign body could also be seen. Even if no pathological condition is encountered in the short period, it may occur in the long period. Although these injuries look simple, their complications could be serious. In literature, complications vary from soft tissue abscess to osteomyelitis [3,5]. In these two cases, symptoms were relatively simple, just a secondary soft tissue injury. But the situation that made our cases unique, was the timeline without any symptoms. Our probable explanation was microtraumas with every muscle movement made this process for 10 years and 24 years, respectively.

Gulati et al. [5] reported an 8-year-old forearm foreign body injury. In that case report, a 10-year-old boy was reported with pain and swelling for 6 weeks. Surgical intervention revealed a 14 mm long slender wooden foreign body which penetrated 8 years ago. This case was presented with infectious findings and healed after surgery.

According to a study by Salati et al. [6], Wooden splinters were the most missing foreign body, followed by metallic fragments and glass fragments in hand. However, only one patient was presented after 2 years, in our cases, one foreign body was glass, another was a metallic nail. Wooden splinters are known to be radiolucent which is the cause of being the most missing object.

Another case report by Yang et al. [7] was a flexor pollicis longus rupture due to migration of a retained foreign

Figure 4. *Surgery revealed a 2, 5-cm long metal nail piece.*

body. This case was about a 30-year-old glass fragment injury. This case report demonstrates that even after 30 years, a foreign body can migrate and trigger more serious injuries

In current literature, standard AP and lateral radiographic views are the first options for foreign body injuries. However, injuries by wooden pieces or glass pieces smaller than 2 mm may require other modalities to evaluate [2,8]. Ultrasound, computed tomography scan, and magnetic resonance imaging could be useful in injuries with these radiolucent materials. In the first case, the radiographic evaluation revealed an approximately 3 cm long piece of glass. Radiographic evaluation is important as symptoms of these injuries could mimic other conditions such as tumors and allergic reactions.

The first approach to these injuries should always start with the application of the tetanus vaccine (if necessary) and prophylactic antibiotherapy. Removal of objects is usually the main goal of surgery, but debridement of necrosed tissues and irrigation should be applied to all cases. Necrosed tissues may serve as a source for soft tissue infections. This case was a late symptom, therefore only surgical intervention was applied.

Conclusion

Foreign body extremity injuries are common injuries. Although these injuries could be forgotten in long term and may cause soft tissue injuries even after a long time [5]. Therefore, foreign body injuries should be kept in mind in the presence of symptoms of inflammation, infection, and allergic reactions. Detailed patient history and imaging are important for diagnosing foreign body injuries in suspected cases.

What is new?

Symptoms of foreign body injuries are well documented in the literature. But there are few cases of late presence. This article presents two cases with late symptoms, which are rarely seen.

List of Abbreviations

AP Anterior-posterior

Conflict of interest

The author declares that there is no conflict of interest regarding the publication of this case report.

Funding

None.

Consent for publication

Written consent was obtained from all the patient.

Ethical approval

Ethical approval is not required at our institution to publish an anonymous case report.

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Summary of the case

1	**Patient details**	Female, 77 years old
2	**Symptoms**	Syncope
3	**Final diagnosis**	Syncope secondary to AHCM
4	**Clinical procedures**	Echocardiogram
5	**Clinical specialty**	Cardiology
6	**Interesting features**	Lateral ST segment elevation on ECG secondary to AHCM