CHAPTER **13**

WHEN WOOD ATTACKS: A CASE REPORT

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CASE PRESENTATION

A 46-year-old white male presented to the office on a Monday morning at 8am. He was originally from Ohio but had been living in North Carolina while working on a construction project. At work on the Saturday prior to presenting to my office he had a wooden wall collapse and fall on the lateral aspect of his right leg. He initially presented to a local emergency room within 3 hours of the injury where he was given a tetanus shot. Three radiographic views of the right leg were taken, which revealed no signs of foreign body. The entry wound was flushed and sutured closed with 3-0 Prolene. A dry sterile dressing was applied. He was given crutches and placed on 500 mg of Augmentin 500 (take 1 per mouth, twice daily). He was instructed to follow up in my office the next Monday morning.

Monday morning he presented to the office. His previous medical history was unremarkable. He had no allergies and did not smoke or drink. On that day he denied F/V/C/N/SOB. He stated that the wall fell on him and pushed him to the ground. He did not have to remove any wood from the leg and did not feel as though wood had entered his leg, although a wound was present. He did note there were numerous pieces of wood broken in the area of his right leg on the ground. He denied pain at the time of injury. He also denied pain in the leg/ankle or foot currently in my office.

The dressing was removed from the right leg. The wound appeared clean with intact sutures. The sutures were removed and the wound flushed with normal saline. Upon inspection of the wound a few tiny pieces of wood could be identified extruding from the wound. These were removed without the need for anesthesia. Ankle and foot range of motion was within normal limits without pain. Muscle function was intact. Neurovascular status was intact other than him relating some shooting like sensations into his right big toe dorsally.

Radiographs were taken in the office (anterior-posterior/ lateral leg and anterior-posterior and anterior-posterior/interio-osseus ankle ankle), which revealed no signs of foreign body or infection. The wound was cleansed and a dry sterile dressing applied. He was told to remain nonweight bearing on the right leg with crutches and continue his antibiotics daily. A magnetic resonance image (MRI) was ordered that day in an outpatient setting. The MRI revealed an abscess in the lateral compartment of the leg with a foreign body measuring 6 cm in the lateral leg. The foreign body was directed from proximal/lateral to distal/posterior into the area of the lateral Achilles tendon. The patient was called and instructed to immediately go to the hospital to be admitted. He was started on Clindamycin 600 mg intravenously and 1 dose of Vancomycin was given prior to surgery later that evening. An infectious disease consult was placed. Under general anesthesia the lateral leg was explored and approximately 15 pieces of 7 cm wood were removed (Figures 1-3). An additional 10 pieces of wood measuring less than 2 cm were also removed. One piece of wood was lodged within the lateral tibia and a bone chisel was utilized to chip the bone away in order to remove the wood in total. The wound was cultured and then pulse lavaged with Bacitracin. Retention sutures with 2-0 nylon were placed and a wet to dry sterile dressing was applied.

The patient was readmitted to the hospital and Clindamycin 600 mg intravenous was continued daily. The wound was changed daily with in room flushing with normal saline. There were no signs of infection and no pain. The leg and wound continued to improve on a daily basis. The culture returned a result of MSSA. He was discharged after 4 days in the hospital with instructions to be nonweight bearing on the right foot and received a 10-day course of Clindamycin 600 mg by mouth per day. He followed up with me on an outpatient basis continuing to do well. The sutures were removed after 10 days and he returned to his work boots and construction job without complication.

A week went by and the patient called relating that he woke up with extreme pain in his right ankle and foot with a lot of swelling and redness in his ankle laterally. He was brought into the office that day and the right ankle appeared red, hot, and swollen with extreme pain on palpation to the lateral ankle. He could not place weight on the foot. He denied changes in his personal medical history or F/V/C/N/SOB. A call was placed to the radiologist at this time and a decision was made to obtain a second MRI. He was at this time placed on Augmentin 500 mg take one pill by mouth per day.

Later that evening the radiologist called with the result of the MRI stating 2 pieces of foreign body could be seen in the superficial fascia over the lateral leg at the site

of the initial entry of the wooden wall with no signs of infection or abscess. A return trip to the operating room was made. The wound was explored once again with exploration this time of the interoseous membrane and lateral ankle gutter, which revealed another 14 pieces of wood in total (Figure 4). The leg was once again pulse lavaged with Bacitracin. Anatomic closure was performed with closure of the lateral skin with 2-0 nylon in a simple and horizontal fashion. The patient was kept nonweight bearing in a posterior splint and told to continue Augmentin daily. The patient did well over the 10-day course of antibiotics. He was seen in the office on an outpatient setting, but was then lost in follow-up after suture removal. A photo was taken on the last day I saw him in the office prior to suture removal (Figure 5).

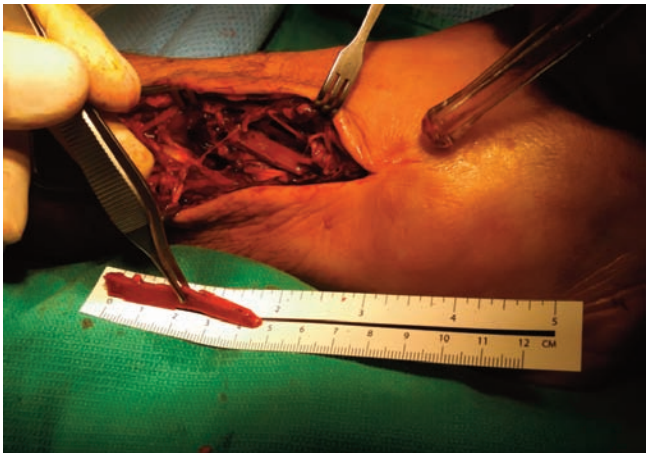

Figure 1. Initial pieces of wood removed from the wound.

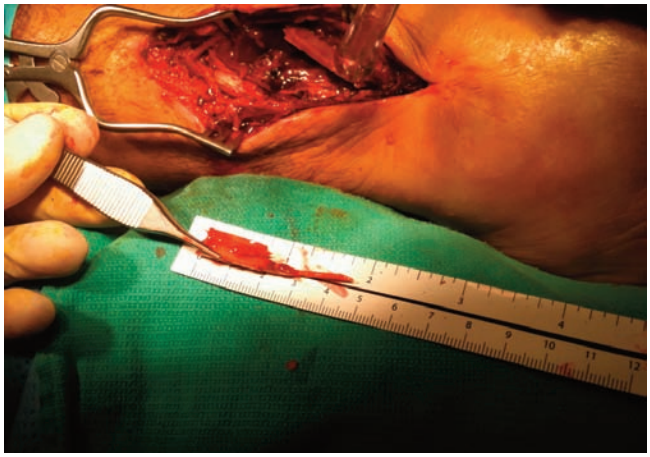

Figure 2. Wood removed.

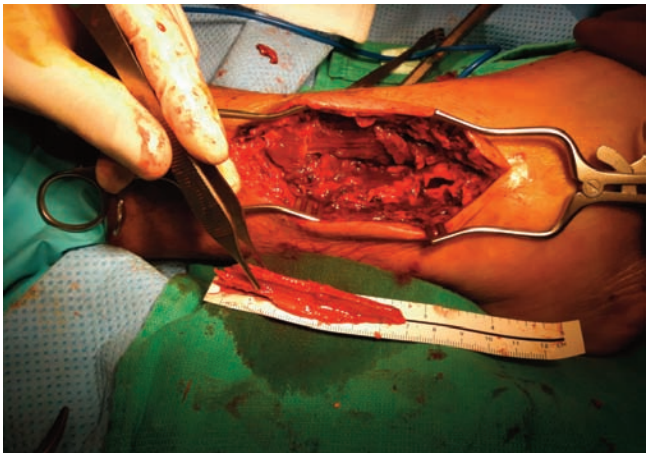

Figure 3. Large piece of wood removed.

Figure 4. An additional 14 pieces of wood were removed during the second surgery.

Figure 5. Postoperative appearance prior to suture removal.

DISCUSSION

When reviewing this case, one of the things that could have been considered was ultrasound of the lateral leg and ankle. There are numerous cases in the literature stating that ultrasound is the imaging method of choice for identifying wood (1-3). Ultrasound imaging could have been attempted during this course of therapy in conjunction with MRI. However, MRI was utilized instead to rule out abscesses and infection. Another consideration would have been to immediately obtain a second MRI after the first and second surgical procedures performed. Also, never assume that the imaging study has accurately identified all of the wood in the area of entry. This does not mean explore the entire foot or leg for every case. However, exploring the area in the direction the wood has entered is important. Another consideration to take into account is how far the wood could have traveled before being resisted by a bone or structure. During the removal process, accurately dissecting around the wood for removal as one piece is crucial. Wood has a tendency to splinter or break off when backed out. One may also not think that wood could penetrate bone but after this case, it is obviously possible. In this scenario the surgeon must free the surrounding bone from the wood for extraction of the wood in total.

CONCLUSION

Wood in the foot, ankle or leg is difficult to assess and image. However, proper imaging can be vital in the surgical course for locating the wood. Often, these can shift in the foot or leg between the time of imaging and surgical removal. It is important to either image during the retrieval process or off load the patient until surgical intervention can take place. Removal of all the pieces is of course important followed by repair of any damaged areas. Proper antibiotic course following surgery and routine dressing changes, despite the number or size of wood can aid in a full return to activity.

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