Background: A 22-year-old male basketball player with bilateral hammer toe deformity complained of a painful, swollen toe on the dorsal aspect of his left 3rd toe, on the proximal phalanx, just distal to the 3rd metatarsal. He stated that the area had been present for 7 days, and that some swelling occurred since the initial complaint. The athlete had a history of lasions on the dorsal aspect of the same toe, noting two previous recorded cultures that were positive for Methicillin-resistant Staphylococcus aureus (MRSA). Differential Diagnosis: Friction blister, MRSA infection, insect bite, folliculitis, cellulitis, fungal infection, furunculosis, M. tuberculosis infection, or other non-infectious causes of osteomyelitis. Treatment: The athlete was referred for urgent evaluation of the lesion by a dermatologist. He was prescribed trimethoprim-sulfamethoxazole and Bactroban solution foot soaks. He was also referred to an infectious disease specialist. Diagnostic testing results were consistent with osteomyelitis of the proximal phalanx, and the lesion is fixed and unyielding. CT results showed extensive osseous changes at the proximal portion of the middle phalanx that were more dense, in addition to some calcific debris in the distal portion of the proximal phalanx, suggesting chronicity and a possible Bruce’s abscess in the dorsal portion of the proximal phalanx. Lab studies showed normal ESR 0-10, CRP, negative HIV and HCV antibody tests, immunity to HIV and HBC, normal WBC profile, and negative QuantIFERON. The lesion showed signs of healing after antibiotics and wearing a post-surgical therapeutic/proactive shoe. Antibiotics were prescribed for an additional 12-week period. New radiographs were taken by an orthopedic surgeon to see if the athlete would benefit from surgical debridement. Radiographs showed osteomyelitis in the PIP joint. The athlete was scheduled for a surgical procedure, orthologic, and drilling it into the intramedullary canal (in order to encourage additional blood flow). The surgeon also decided to correct the hammer toe deformity by lengthening the extensor tendon. Combining these surgical techniques should effectively eradicate the infection and correct the hammertoe deformity should prevent further lesions that may become infected. Post-surgical recommendations included the athlete wearing a low-top boot and brace for 4 weeks, followed by a custom fitted toe crease device. The athlete returned to full participation 6 weeks after surgery. The combined methods used to eradicate the infection make this case unique. The physicians and surgeons on this case agreed that the athlete bilateral hammertoe was part of the cause and that correcting the deformity would help to eradicate the infection and prevent future infections.

Conclusion: The athlete’s MRSA infection was effectively eradicated through the use of antibiotics, immobilization, surgical debridement, arthroplasty, and correction of the hammertoe deformity. While the hammertoe deformity cannot be definitively prepossessed as the cause of the athlete’s infection it is reasonable to assume that it played a part. MRSA is a dangerous, infectious disease that must be attended to urgently and meticulously. Identification of abnormal foot postures and related skin lesions (i.e., friction blisters), appropriate wound care, proper footwear, and better hygiene may have prevented this athlete’s infection. It is reasonable to assume that it played a part. MRSA is a concern in all athletic training room settings, cases like this brings special attention to personal hygiene and cleanliness of the athletic training room and locker rooms. Athletic trainers should prevent the spread of infections like MRSA by keeping facilities clean and educating their patients about MRSA among athletes. Available at: http://www.cdc.gov/ncidod/dhqp/labsftr.html.

References

Chronic CA-MRSA in a Basketball Player with Hammer Toe Deformity: A Case Study
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Diagnosis and Treatment

Diagnosis: MRSA infection

Day 0: The lesion began in the athlete’s left 3rd toe (figure 1). The athlete was referred to a dermatologist.

Day 1: The lesion was treated with the infectious disease specialist — the lesion showed evidence of healing. The athlete was referred to an infectious disease specialist for further evaluation and treatment.

Day 2: The athlete was referred to infectious disease specialist for further evaluation and treatment.

Day 3: The athlete was referred to infectious disease specialist for further evaluation and treatment.

Day 4: The lesion showed signs of healing through the use of antibiotics, wearing a post-surgical therapeutic/proactive shoe. Antibiotics were prescribed for an additional 12-week period. New radiographs were taken by an orthopedic surgeon to see if the athlete would benefit from surgical debridement. Radiographs showed osteomyelitis in the PIP joint. The athlete was scheduled for a surgical procedure, orthologic, and drilling it into the intramedullary canal (in order to encourage additional blood flow). The surgeon also decided to correct the hammer toe deformity by lengthening the extensor tendon. Combining these surgical techniques should effectively eradicate the infection and correct the hammertoe deformity should prevent further lesions that may become infected. Post-surgical recommendations included the athlete wearing a low-top boot and brace for 4 weeks, followed by a custom fitted toe crease device. The athlete returned to full participation 6 weeks after surgery. The combined methods used to eradicate the infection make this case unique. The physicians and surgeons on this case agreed that the athlete bilateral hammertoe was part of the cause and that correcting the deformity would help to eradicate the infection and prevent future infections.

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