PPIC Closed Claim Case Review

Necrotizing Fasciitis: Can it be recognized in time to prevent a bad outcome?

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Introduction

Several highly publicized cases of flesh-eating bacteria in the 1990s increased public awareness of necrotizing fasciitis (NF). Physicians in a variety of specialties may someday be charged with identifying and diagnosing NF in time to prevent its often devastating outcomes. This article examines two cases: the first illustrates the difficulty in making the diagnosis and the second presents a scenario in which the physician's actions contributed to the development of NF.

Overview Case One

A twenty-seven-year-old construction worker was injured in a fall through floor joists. He was initially treated at an occupational medicine office for an abrasion on his leg. When he returned for follow-up two days later, his leg was swollen, with tight and shiny skin and encircling redness.

The patient was sent to the emergency department (ED) of the local hospital for treatment of a progressive leg infection. There he reported steadily worsening, "unbelievable pain" that "shot up his side" if he touched his foot to the ground. His pulse was elevated at 98, BP 150/70, WBC 15,100/mm, blood glucose 156, and serum sodium 125.

The ED physician diagnosed cellulitis with possible bacteremia. Blood cultures were drawn, IV Rocephin started, and the patient admitted to the hospital under the care of the insured physician, who treated him with IV antibiotics for cellulitis.

In deposition, the ED physician stated that he requested admission not because he suspected NF, but because it was one of the worst cases of cellulitis he had ever seen. By "worst," he meant the extensive area of infection and the amount of pain the patient experienced. He also stated that he did not recall seeing shiny areas of redness, crepitus, skin color changes, or bullae that might have made him suspect NF. He believed that if he had seen any of these, he would have noted it in the medical record and immediately called in a surgeon. He did document that "the patient does not look toxic."

The morning after admission, the insured physician recorded the patient's leg pain, swelling, and tenderness. A nurse circumscribed the area of redness with a marking pen. Fever was 101.6°, BP 110/68, and pulse 104. In response, the insured doubled the dose of antibiotics. The physician later recorded negative blood cultures and ordered an infectious disease (ID) consult for the next day.

A partner saw the patient on the insured's behalf the following morning. The patient still had pain and fever, and the swelling and redness had spread to his buttock and ankle. The partner obtained a CT scan of the leg that showed NF and pursued the ID consult, which finally took place that day at 4 p.m. A surgical consult immediately followed. The surgeon informed the patient's family that he needed immediate surgical debridement to save his leg, and perhaps his life. The first surgical debridement was performed that evening.

In the ensuing weeks the patient developed sepsis and required mechanical ventilation. He was transferred to a large medical center where he underwent multiple debridements and eventual skin grafting.

While the patient still has his leg, he also has extensive scarring over 35% of his body and limps due to foot drop. He is able to work part-time, but his physical activities are severely limited.

Several issues emerged in this case:

Was it reasonable to expect that a family practice physician would consider NF in this circumstance?

Are skin signs a reliable predictor of NF?

Should the insured have consulted an ID specialist sooner?

Should the insured's partner have called a surgeon as soon as a CT demonstrated the presence of NF?

Would earlier treatment with more effective antibiotics and surgery have changed the outcome?

to describe a patient with cellulitis and fever who is admitted to the hospital. Best practices in documentation require that objective terms be used to describe physical exam elements, vital signs, mental status, and behavior.

This claim settled for $861,785.

Overview Case Two

A 58-year-old woman cut her finger while washing the dishes three days prior to presenting to the insured's office. She arrived with the chief complaint of nasal congestion. During the course of the visit she showed the doctor the cut, complaining of her trouble keeping a band-aid over the wound and stating that the flap of the wound kept "catching." The wound was 2 cm in length, 3 mm deep, and located on the lateral aspect of her finger. It was red, clean, and open, with viable tissue. The physician, a third-year family medicine resident, closed the laceration with four sutures. The claimant returned the next day with a severe infection. She was diagnosed with group A strep and subsequently lost her finger.

Expert Opinions

A family practice expert stated that the stitches injected skin bacteria into the wound. An expert hand surgeon opined that a wound must be sutured within six hours. The resident stated that he had taken courses in medical school for surgery and wound management. He took into account cosmetic factors, nature of the wound, and risk factors when he decided to suture. The physician also admitted that he was unaware of the patient's diabetes and peripheral vascular disease. He neither took her history nor tested for infections. He also failed to consult other available doctors, including the ED physician who decided not to suture the laceration at the time of injury.

Reviewing the record for the defense, the family medicine residency director at a large university stated that it was a judgment call, as the wound was clean with no evidence of infection. This expert felt the insured was practicing within the standard of care when he decided whether the wound would heal on its own if not sutured. In the final analysis, however, the opinion of the hand surgeon carried more weight than that of the residency director.

Discussion

In a randomized controlled study comparing suturing to conservative treatment of hand lacerations, there was no difference in cosmetic and functional outcomes. Of note is that patients were excluded from the study if the injury occurred more than eight hours prior to presentation[4]. It is interesting that the resident had apparently not received additional training in suturing while in the family medicine residency program. It is likely that the physician had not encountered a patient who presented with a laceration several days old. Excuses aside, however, at least a basic history should always be obtained before treating a patient.

This case settled for $225,000.

Summary

Whenever a patient presents with a possible soft tissue infection, physicians should consider NF as part of the differential diagnosis, especially in patients experiencing pain out of proportion to the apparent degree of involvement. By the time obvious skin signs are evident, there is already significant involvement of underlying tissues. It is better to err on the side of caution and obtain an early surgical consult than to have a tragic outcome.

References

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