

Surgical Education and Self-assessment Program (SESAP)

Category 1, item 21

Question

Which of the following factors best indicates that the deformity pictured is a diabetic foot ulcer?

- A History of acute onset
- B Severe pain
- C Location over the metatarsal head
- D Nonpalpable pedal pulses
- E Multiple bacterial species in the ulcer



Critique

Foot ulcers in the diabetic patient characteristically are painless and develop insidiously as a result of diabetic neuropathy. The neuropathy affects sensory and motor functions in both the somatic and autonomic pathways. There is reduced sensation to pain, pressure and proprioception. Motor neuropathy in the feet frequently involves the toe flexors, thereby leading to unopposed action of the extensor tendons. This imbalance results in prominence of the metatarsal heads and characteristic deformities such as claw, cocked-up or hammer toes. Because the first metatarsal head is most involved with weight-bearing with walking, ulceration over the first metatarsal head is very common in diabetic patients. There is no consistent relationship between diabetic neuropathy and diabetic control or the presence of arterial occlusive disease. These deformities create pressure points, which are prone to callus formation, ulceration and infection.

Like most chronic wounds and ulcers, diabetic foot ulcers contain large numbers of multiple bacterial species. In the absence of a specific impairment of host resistance, diabetic foot ulcers can withstand a microbial load that could readily cause clinical infection in an acute wound.

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Bibliography

1. Habershaw G. Foot lesions in patients with diabetes: cause, prevention and treatment. In: Kahn CR, Weir GC, editors. *Joslin's diabetes mellitus*. 13th ed. Philadelphia: Lea & Febiger; 1994. p. 962-9.
2. Nwomeh BC, Yager DR, Cohen IK. Physiology of the chronic wound. *Clin Plast Surg* 1998;25:341-56.

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