Dear Editor,

A 68-year-old male patient, with type 2 diabetes mellitus of 38 years’ duration was referred to our Department with a large chronic wound (7 × 5 cm) on his left leg (Figure 1). The wound occurred two months ago during hospitalization. On examination, bilateral pedal pulses were absent. A lower extremity Doppler ultrasonography detected arterial stenosis at mid crural level on the patient’s left leg suggestive of diabetic angiopathy. The 10-g-Semmes–Weinstein monofilament test revealed reduced sensation suggestive of diabetic peripheral neuropathy.

Because of the wound’s localization, probable etiologic factors other than peripheral arterial disease or bed sores were suspected. The patient’s past medical history revealed a 10 days hospitalization at an intensive care unit (ICU) due to respiratory failure, two months ago. During his stay he was on mechanical ventilation and his blood pressure had been monitored continuously by an inflatable blood pressure cuff. Since he had IV ways on both arms, the cuff had been placed over his left leg. On reanimation the patient noticed pain on the site where the sphygmomanometer cuff was placed. When the cuff was removed, a large necrotic area was observed underneath.

Although preventive measures are implemented, nosocomial injuries continue to be a constant threat in the hospital settings1. Diabetic patients are prone to injuries due to diabetic angiopathy and sensory neuropathy. Besides pressure ulcers, diabetic patients may also suffer injuries at several other locations resulting from different sources2. Our patient had several

Figure 1. A large wound on patient’s left leg.
predisposing factors including advanced age, diabetes mellitus, peripheral arterial disease and chronic renal failure, which, together, are known to increase the risk of pressure ulcers. Noninvasive blood pressure measurement is generally accepted as a safe procedure. However, a number of complications including petechial rash, ecchymoses, compartment syndrome, and skin necrosis of the upper extremities have been reported. We think that repetitive trauma induced by sphygmomanometer cuff caused skin necrosis in our patient. To our best knowledge, this is the first reported lower extremity wound to be induced by continuous arterial blood pressure monitoring by a non-invasive sphygmomanometer cuff.

In conclusion, healthcare professionals, who are dealing with diabetic patients, should increase their vigilance while performing medical interventions, since these patients have increased risk for nosocomial injuries. The sphygmomanometer cuff should not be applied over a bony prominence. The cuff site should be examined regularly during prolonged noninvasive blood pressure monitoring. In addition, the etiology of an unexpected wound should be questioned in detail to identify nosocomial injuries. This meticulous approach will provide better preventive measures to be taken against nosocomial injuries and hence will avoid medico-legal liability.

References


4) Schouchoff B. Pressure ulcer development in the operating room. Critical Care Nursing Quarterly 2002; 25: 76-82.

G. Uzun, H. Karagoz, M. Mutluoglu, Y. Ozdemir, O. Uz, M.G. Senol

1Department of Underwater and Hyperbaric Medicine; 2Department of Plastic and Reconstructive Surgery; 3Department of Surgery; 4Department of Cardiology and 5Department of Neurology, Gulhane Military Medical Academy Haydarpasa Teaching Hospital, Kadikoy, Istanbul (Turkey)