Pressure Necrosis: A Burning Issue?

Case Presentation and Literature Review

B Bednarz, M Thakkar, I Mackie, C Estela & S Sen
Department of Burns and Plastic Surgery, Southmead Hospital, North Bristol NHS Trust

Introduction

Burns present as a challenging and potentially distracting diagnosis. Because of their perceived complexity, they often eclipse other medical problems which can be life threatening. Pressure necrosis may present with full thickness skin involvement and in rare instances, such necrosis may mimic and be mistaken for a full thickness burn. Such long lies may cause pressure necrosis of decubitus areas and compartment syndrome of vulnerable areas. Compartment syndrome, is a surgical emergency requiring prompt diagnosis and intervention. It may be missed in the context of a long lie after a collapse. Such missed diagnoses, maybe detrimental to patients' outcomes.

Case 1

A 75 year old male was referred with chemical burns to his right forearm and chest sustained during a long lie after a collapse. However, the pattern of his injuries was more consistent with pressure necrosis. This was later confirmed when the patient became less confused and denied any chemical or heat sources present in his kitchen. Despite strict elevation, the forearm became more swollen and tense with pain on passive extension of his digits. The patient underwent urgent surgical exploration for compartment syndrome where mild soft tissue swelling was found. He was later discharged to the care of the physicians with hand therapy and tissue viability input.

Case 2

A 79 year old woman was transferred from a peripheral hospital to our Burns Unit 3 days after a collapse and long lie where she was thought to sustain contact burns to her left hand, forearm, chest and greater trochanter. She could not actively move her hand and her inflammatory markers and renal function were deteriorating. She was taken to theatre for debridement of the visible eschar where necrosis of all compartments of the forearm were discovered. She underwent an emergency below elbow amputation. The pattern of injury resembled Case 1. The patient was subsequently transferred to a rehabilitation unit and passed away 4 months after the injury.

Series of photographs of Case 1 showing the reciprocal contact points and resultant pressure necrosis

Literature review

A literature search using Medline database with the phrases “burn” AND “pressure necrosis”, and “burn” AND “Pressure sore”, yielded 8 and 16 results respectively. Only a single article¹ described a pressure necrosis mistaken for a burn injury. However, this case report focuses on a cause of long lie rather than aid of pattern recognition in diagnosis.

Conclusion

Pattern analysis and recognition are very important diagnostic tools in medicine. Detailed history taking and examination cannot be emphasised enough. Training both emergency departments and plastic surgeons in recognising long lie related injuries will decrease possible associated dangers such as missing a compartment syndrome.

Pattern analysis is a very important diagnostic tool in medicine

References

1. Thorpe EJ, McCallin JP 3rd, Miller SF Pressure necrosis masquerading as a burn injury in a patient with a cervical epidural abscess producing acute quadriplegia J Burn Care Res. 2008 Jul-Aug;29(4):660-2.