

Sequela of full-thickness burn penetrating to muscle: an unusual and insidious manifestation of rhabdomyolysis and compartment syndrome.

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Rhabdomyolysis, due to direct thermal injury to muscle, is rare. We describe the initial management of a forty-seven-year-old gentleman with rhabdomyolysis and compartment syndrome following a severe thermal scald/contact injury.

A forty-seven year old male presented to our Unit via primary rotary-wing retrieval following a 32%TBSA thermal injury to his bilateral lower limbs, buttocks and periumbilical region.

He had been partially submerged in molten asphalt (approximately 180 degrees Celsius) for an estimated 120 – 300 seconds before he could extricate. Adequate first aid was administered by first responders. He was intubated and sedated due to significant analgesia requirements and arrived at our centre approximately ninety minutes following injury.

On arrival the patient was tachycardic and normotensive. On assessment, he presented with full-thickness circumferential bilateral lower limb burns up to his superior thighs. His calves were tense bilaterally, and his feet cold and pulseless. An indwelling catheter was placed revealing dark myoglobinuria [Figure 1]. Escharotomies were performed immediately in ED and the patient was immediately booked for emergency fasciotomies.

Operative findings revealed thermal injury to the superficial portions of all leg musculature, particularly the peroneal compartment [Figures 2, 3]. Perfusion was restored to the bilateral lower limbs following release of all four compartments and resuscitation in the ICU. The patient has made an excellent functional recovery following several debridement, application of BTM, skin grafting, a medial gastrocnemius flap to the left open knee joint, and intensive physiotherapy. He is now ambulating independently and has since been discharged.

Rhabdomyolysis and compartment syndrome may be life or limb threatening. This unusual mechanism of injury highlights the need for clinicians to maintain high levels of clinical suspicion and treat these developing syndromes aggressively.



Figure 1 (top left) – IDC insertion within one hour of injury revealed frank myoglobinuria.

Figure 2 (top right) – Right peroneal musculature retracted to demonstrate the clear demarcation between injured (superficial portion) and viable (deep portion) muscle.

Figure 3 (bottom) – lateral aspect of right peroneal muscles at time of fasciotomy