

Iodine/potassium iodide/povidone iodine

S

Chemical burns under a tourniquet: 2 case report

Two patients undergoing orthopaedic lower limb surgery, using povidone-iodine [Betadine] and a tincture of iodine and potassium-iodine, developed chemical burns under their tourniquets.

Both patient's, a 39-year-old woman (patient 1) and a 32-year-old man (patient 2), received 10% povidone iodine as initial preparation, and a tincture of iodine and potassium iodide in 70% alcohol (with 1% iodine in patient 1, and 0.5% iodine in patient 2) as a secondary prep [*dosages not stated*]. In both patients a protective layer of gauze was placed under the tourniquet. The tourniquets were inflated for approximately 110 and 86 minutes, patients 1 and 2, respectively. The gauze became soaked with prep solution, and subsequently resulted in chemical burns [*times to reaction onsets not stated*]. Patient 1 developed medial thigh pain postoperatively; an incomplete circumferential full-thickness burn was observed at the site of the tourniquet. In patient 2, the burn was noticed approximately 4 hours postoperatively.

Both patients required wound excision and skin grafts.

Author comment: "*Free iodine in prep solution reacts with membrane proteins, which gives iodine its bactericidal properties. If the solution is allowed to remain in the wet state in contact with tissues for prolonged periods, cellular damage and a chemical burn may result.*"

Hubik DJ, et al. Iatrogenic chemical burns associated with tourniquet use and prep solution. ANZ Journal of Surgery 79: 762, No. 10, Oct 2009 - Australia

801158252