
Tissue necrosis of hand caused by phenytoin extravasation: An unusual occurrence

Sir,

Phenytoin has been implicated as a serious cause of tissue necrosis on extravasation.^[1,2] It is a unique complication for the anesthetist and not much is quoted in anesthesia literature. We cite here an incident, where a 3-year-old child weighing 12 kg was shifted to neurosurgery ICU from emergency around midnight with head injury. On examination, swelling was seen around dorsum [Figure 1] of her left hand associated with slight skin discoloration and a 22 G IV cannula inserted very near to wrist joint seemed to be the cause. The cannula was removed immediately and hand was elevated. By evening the situation worsened with blister formation on dorsum of hand and purple discoloration. The radial artery was barely palpable. Diagnosed as compartment syndrome due to tissue necrosis, decision was made in favor of prophylactic fasciotomy [Figures 1 and 2]. On enquiry about the cause, a consensus was made that phenytoin might be the only agent as nothing other than normal saline and phenytoin 150 mg were injected via the cannula in emergency room

prior to her admission in ICU. At one time it appeared that the hand was beyond salvage but after a few days of dressing the normal texture of the tissue appeared and the injury was managed.

Phenytoin extravasation has an incidence in between 3 and 7% and causes chemical cellulitis, which may even progress to necrosis requiring amputation.^[1-4] Many prudent measures are advised while infusing phenytoin such as avoidance of cannula less than 20G size for infusion and in sites such as over joints where mechanical obstruction is common, minimizing infusion rate below 25 mg/min and substitute the use of fosphenytoin.^[2,3] If extravasation occurs, limb elevation and dry heat should be applied and in severe cases fasciotomy should be opted for.^[1,4] For an anesthetist the experience of this type of complication due to phenytoin is rare, and moreover we use phenytoin in neurological and neurosurgical cases in OT and ICU more often to load the patient, which requires the high infusion rate. We hope that this experience of ours will aware others to be vigilant in using phenytoin.



Figure 1: Dorsum of the hand after fasciotomy and dressing



Figure 2: Palmar aspect of the same hand

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Quick Response Code:	Website: www.saudija.org
	DOI: 10.4103/1658-354X.130766