

Self injection of mercury injections to become ‘Wolverine’

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Introduction

Mercury is a heavy metal and is in liquid form at room temperature. Mercury toxicity can occur in many ways depending on the route of entry which could be inhalation of vapour, oral ingestion, transdermal absorption, or injection. The injection of mercury is comparatively rare. It is however seen amongst psychiatric patients and adults who use it as a form of an aphrodisiac or as a novel way of intoxication [1-3].

We report a case of self-injection of mercury in a teenager, with special reference to the surgical management.

Case report

A 15 year old girl was admitted to the local hospital with symptoms of fever, vomiting and an erythematous rash. She had injected both forearms with mercury. She wanted to emulate the character 'Wolverine' in the movie “X-Men”, injecting a liquid metal.

Examination including forearms was unremarkable. Chest X-ray, renal and liver functions were normal. X-ray of her forearms showed hyper-opaque areas consistent with mercury. The tissue plane appeared to be subcutaneous. Blood mercury level was 183.2mcg/L (0.46-7.5 normal). She was started on Dimercaprol and was referred to us for extraction of the mercury from the soft tissues.

Resection of the tainted tissues was performed under general anaesthesia. Adequacy of resection was checked with post-op x-rays. Her postoperative recovery and long term follow-up was uneventful.

Discussion

Toxicity levels are minimal in patients following injection of mercury [4]. The mercury remains in the tissues and is slowly absorbed systemically with excretion via the renal and gastrointestinal systems. The mercury load can be diminished by surgical evacuation, which also enhances the chelation therapy.

We marked the forearm with metal markers to identify vertical & horizontal extents on digital x-ray (Figure 1) as a guide.

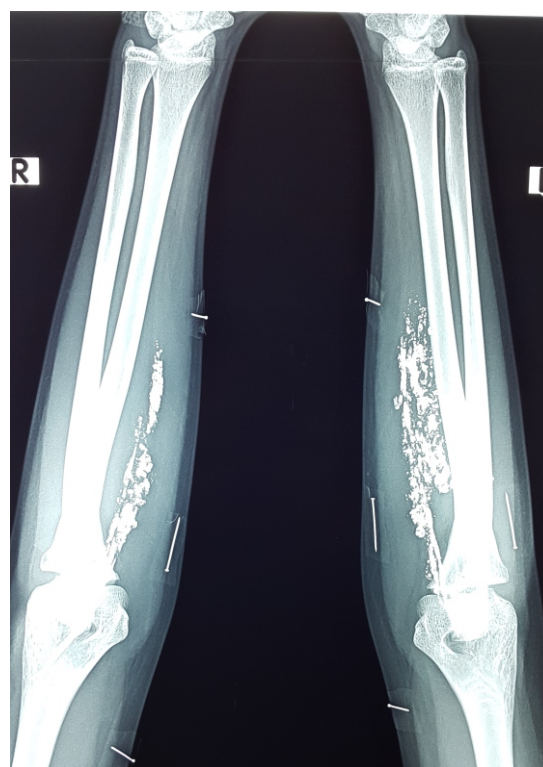


Figure 1. X-ray showing multiple opaque shadows of mercury and pre-op markers.

Sub dermal skin flaps were raised. Subcutaneous fat was excised down to the muscle. The right side required deeper resection. Free mercury (Figure 2) was mopped off with wet gauze.

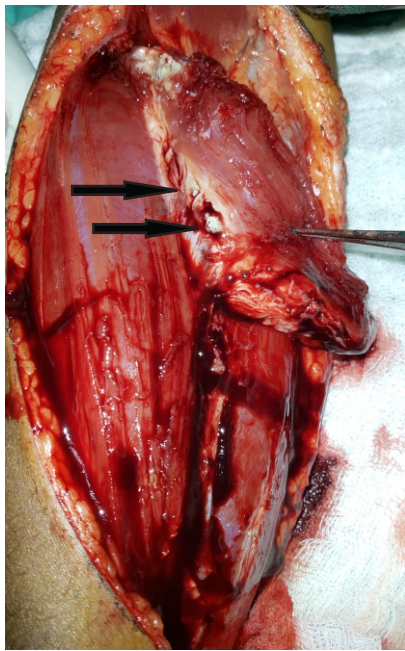


Figure 2. Free mercury in the muscle and inter-muscular septum.

The resected specimen was sent enbloc for x-ray to confirm adequate resection. Additional intramuscular lymphatics were excised. A thorough survey with loupe magnification preceded closure. Post-op x-rays revealed adequate clearance.

References

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Key Points:

- Injected mercury requires surgical extraction.
- Even in the absence of advanced imaging complete resection can be achieved with pre-operative planning and diligent surgical technique.