Deep Full Thickness Burn to a Finger from a Topical Wart Treatment

Abstract:
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Abstract
We present a case of a deep full thickness burn from topical formic acid. Our patient developed a burn over her proximal interphalangeal joint (PIPJ) of her finger, secondary to inappropriate application of an anti-wart treatment. The burn required extensive debridement, and the resultant defect was reconstructed using a subcutaneous flap from the adjacent finger (a reverse cross finger flap). She was reviewed six months post-surgery, and overall she has a sub-optimal result. This incident was referred to the Irish Medicine’s Board who have since reviewed the case and ordered the manufacturer to alter their usage instructions.

Case Report
A 33 year-old lady presented to the Plastic Surgery service with a necrotic wound over the dorsum of her right little PIPJ. She reported a 6 month history of a viral wart over this area. This was treated with an over the counter anti-wart topical ointment, comprising of formic acid, and applied as directed for 30 minutes. The wart failed to resolve despite multiple treatments and so she applied the preparation for a consecutive 12 hours over night. She had a 3X2cm deep full thickness burn over the dorsum of the joint with surrounding cellulitis. She could mobilise the joint with minimal discomfort. She had no sensory deficit. She was admitted for intra-venous antibiotics and on day 2 of admission she underwent debridement. Intra-operatively she was found to have a burn involving skin, subcutaneous tissue, the underlying central slip of her extensor tendon, and joint capsule. The wound was dressed with inadine soaked paraffin gauze, which was changed daily. She had a second debridement on day 5 and was found to have a healthy granulating wound.

On day 8, she underwent the first stage of a reverse cross finger flap. This technique comprised of firstly raising a thin dermal flap from the adjacent finger, and then raising a separate subcutaneous flap of adipofascial tissue, from the same finger. This flap, which is kept attached to its native blood supply was then used to cover the defect of the burn. The dermal flap from the adjacent finger was replaced, and a split thickness skin graft was harvested from her thigh and inset over the adipofascial flap. This was performed successfully without any intra-op or post-op complications. The adipofascial flap was then divided from its blood supply from the adjacent finger 4 weeks later, after which she underwent intensive hand therapy. One month, she was able to return to work, however she experienced significant stiffness of her PIPJ and has also developed a Boutonniere deformity. She has an extension lag of 70, with minimal flexion/extension of 5-10 at her PIPJ, and no flexion at her DIPJ. She has had to undergo intensive hand therapy and multiple attempts at progressive splinting with some improvement.

Discussion
Formic acid has become one of the most popular treatments for common viral warts, following multiple reports on its success. Reports on formic acid burns are very limited in the literature. However reports of contact burns from domestic formic acid are very scarce. This case highlights the issues surrounding patients using over the counter (OTC) medications which may not have clear instructions, or where the potential hazardous side effects are not explained efficiently. The product information does not describe the potential sequelae if the product is used in a prolonged setting, as highlighted here. Use of OTC medications is increasing and poorly registered, which has lead to many complications and needless admissions. As more drugs are becoming available OTC, and many patients are avoiding costly GP visits and instead self-medicating, it is imperative that the instructions for use are very well described, and most importantly clearly understandable.

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References


