Chemical Burn Of The Hand

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INTRODUCTION:

Chemical burns of the hand is one of the commonest industrial injuries in Malaysia. However, hydrofluoric acid burn is extremely rare as strict precautions are practised while handling it. Exposure to skin leads to severe corrosive burns, immediate tissue damage and has the ability to penetrate deeper tissues due to its lipophilic property. Delayed treatment results in increased burn surface area and depth over time.

CASE:

We present a 27-year-old lady, who works in an electronic industry. She was in-charge of cleaning silicon wafers (semiconductor material), used in fabrication of electronic circuit. Unfortunately, while handling hydrofluoric acid 49%, the acid seeped through a punctured hole in her glove and had direct contact with her right thumb. She immediately experienced burning sensation and noted redness over the contact area. She irrigated her thumb with running water however did not seek any medical treatment. The following day the pain increased and her thumb was discoloured and she then decided to go to seek medical treatment. At the hospital intravenous antibiotic was adminstered and surgery was performed. Her nail was removed and nail bed debrided. Subsequently, calcium gluconate gel (2.5%) was applied over the burnt area.

RESULTS:

Pain markedly reduced over the burnt area. The chemical burn did not penetrate deeper affecting the underlying soft tissue or bone.

Figure 1 Figure 2

CONCLUSION:

Prompt treatment with calcium gluconate gives good result to hydrofluoric acid burn. Delay in treatment may lead to need for extensive wound debridement, tissue lost necessitating tissue cover or even amputation.

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