PP043 SUPERGLUE THERMAL BURN: HOT STICKY MESS

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INTRODUCTION

Cyanoacrylate (CNA) adhesives are commercially known as superglue. Medical grade derivatives of this compound, such as 2-octyl-cyanoacrylate, being non-toxic and less irritable to skin, have been developed for use as surgical skin adhesives. Reported cases of CNA adhesives thermal burns were far and few, all being commercial grade glue and not medical grade glue.

CASE REPORT

A 10-year-old boy presented to the ETD with 2nd degree burn over fingers of both hands after spilling "3-Seconds Superglue" while attempting to fix a badge onto the fabric of his school cadet beret. His attempt to wash away the superglue with cold tap water was futile. Local examination showed multiple blisters on all fingers. Some of the blisters were intact while others had ruptured and deroofed. All were partial thickness burn. The solidified superglue compound was superimposed on the blisters and edges of exposed wound. The exposed raw tissues at the base of the deroofed blisters were tender. Lignocaine gel was applied to the raw area for local analgesic effect. Liquid paraffin was used successfully in the effort to remove the adhesive remnants without further traumatizing the sensitive skin.

DISCUSSION

Cyanoacrylate is a liquid monomer that polymerizes rapidly when in contact with water. The hydroxylation process is exothermic, releasing heat energy which can cause burn to the skin. Cotton, usually in fabric, acts as a highly potent catalyst which speeds up the polymerization reaction. In addition to thermal injury, repetitive contact between cyanoacrylate and the skin can cause epidermal spongiosis and eczema. Considering skin sensitivity and presence of raw wounds, liquid paraffin was used to remove the glue remnants as it is less irritable compared to acetone.

CONCLUSION

Cyanoacrylate adhesives can cause thermal injuries when activated by moisture. Method of glue remnants removal warrants careful consideration of skin and wound conditions.