



CASE REPORT

How to remove Superglue from the mouth: case report

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KEYWORDS

Superglue;
Mouth;
Margarine

Summary A 2-year-old boy presented to the emergency department of the Bradford Royal Infirmary with Superglue in his mouth as a result of biting on a tube of glue that lay on the floor. His lips and upper teeth were stuck together and we removed the glue by applying margarine.

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Superglue is a cyanoacrylate resin that can bond to organic and inorganic matter. There have been a few reports of removal of Superglue from various parts of the body or of the toxic nature of cyanoacrylate in contact with mucous membranes.^{1–4}

Case report

A 2-year-old boy presented to the Accident and Emergency department at Bradford Royal Infirmary with Superglue in his mouth, which had happened when the child unknowingly bit down on a tube of Superglue that was lying on the floor. This caused his upper lip and teeth to stick together. On examination the skin of his lip and the attached gingiva were red and swollen. Nobody in the hospital knew how to treat the boy.

We searched MEDLINE using 'Superglue, Superglue injuries, Superglue in the mouth, removal of Superglue' as keywords with free text queries and Boolean search strings. There were no reported cases of the treatment of such an injury in the mouth.

We expanded the search to non-medical sources, which yielded information about the chemistry of Superglue and its setting reaction. The internet also yielded information about substances that can inhibit the setting reaction or soften the set resin, including high-molecular weight mineral oils such as kerosene. Kerosene is unsuitable for use in the mouth. We made a further search for a non-toxic and edible source of high-molecular weight oils, which showed that margarine, which is non-toxic and edible, is a good source of high-molecular weight oils. We therefore spread margarine liberally over the affected areas of the lip and the mouth. In about 20 min the Superglue started flaking and softening. It was then possible to remove

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it from the lips and teeth with a moist gauze pad. The boy was admitted for observation overnight because of the possibility of a hypersensitivity reaction.

Discussion

None of the methods of removing Superglue that have been used in other parts of the body were considered suitable for us in the mouth of a 2-year-old child and the materials reported (which included acetone) could not be used inside the mouth. Superglue is a methyl α cyanoacrylate resin and traces of basic impurities can catalyse its rapid polymerisation. High-molecular weight mineral oils such as kerosene can hinder this reaction and slow or even interrupt the polymerisation of resin. Resins can therefore be softened with mineral oils but they cannot be used inside the mouth. A natural source of high-molecular weight oils is margarine

It may be that, if the affected areas had been kept moist and left without any active intervention other than supportive care, the resin could eventually have been removed, but there is no knowing how long this would have taken. It is probable that the saliva aided the action of margarine in helping to remove the resin much more quickly than it being left alone without any active treatment.

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