

A rare case of superglue accidentally for patient also for doctors

Shamendra^{1,*}, Jitendra Nagal², Rajkumar Jain³, Vijay Kumar Meena⁴, Suresh⁵

¹Medical Officer, ^{2,5}Resident, ³Professor, ⁴Associate Professor, Govt. Medical College, Kota, Rajasthan

***Corresponding Author:**

Email: shamendra.meena82@gmail.com

Abstract

A 16 years girl came in MBS Hospital in ENT OPD on 02/12/16 at 11 A.M. She is present with stuck her mouth with history of super glue in between lower and upper jaw and there was no gap seen. She biting glue tube with her teeth in school for science project that time some amount of glue was poured in mouth & then stuck her mouth instantly. We processed in OPD & removed it with normal saline, lignocaine jelly also with 10% LOX spray & some instrumentation gently. Finally we succeeded.

Keywords: Super glue, Self-treatment, Mouth, Gums, Lignocaine jelly

Introduction

Super glue has been available in the market as a general adhesive since the late 1950s. It has experienced extraordinary claims regarding its strength and versatility. It has been said that a 1-square-inch bond can hold more than a ton. Super glue is available under many trade names, in many forms (ie, stick, liquid, gel), and from a number of major and minor manufacturers.

The most outward reaction is effected by the face is, unmistakly, us.⁽¹⁾ Super glue is made by cyanoacrylate resin that resin can bind with organic & inorganic matters. There have been only a few cases reported for removal of super glue from body parts. It has toxic effect when contact with mucous membrane.⁽²⁻⁵⁾ Super glue known as instant adhesive. In some cases needed surgical instrumentation unnecessary.

Super glue is claimed to have the ability to bond porous, nonporous, and flexible surfaces, including glass, porcelain, fabric, metal, leather, wood, rubber, and a variety of resins. It can be purchased in super markets, in stationary stores, in convenience stores, and over the Internet. Its dangers are well known and appear on the packaging.

Newer applications of super glue include wound closure instead of sutures and the detection of latent fingerprints in criminal investigations.

If even nothing is done, cyanoacrylate adhesive automatically lose their adhesiveness to skin, mouth & eyes, because of under effect of moisture on skin, perspiration, tear or saline.

In mouth: lips became stuck together accidentally. They should be ringed with plenty of warm water from out side & saline should be pressed up against area on the side of mouth to maintain maximum contact with moisture. Moving lips & mouth usually loses adhesive holds. Any remnants of adhesive can be removed using water & skin care ointment or oil.

Never attempt to force open lips that have been stuck together in mouth it produce white colour coating or agglomerate.

If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips.

No treatment is normally necessary.

Saline removed adhesive from inside of mouth usually within 12 hours to 2 days. A large quantity of agglomerate form in mouth. Patients should be positioned in such a way that it can't be swallowed once it comes loose. Kindly [lease make sure that airway is safe or not.

Also eye, skin or in burn cases stuck firmly & instantly. Skin stuck tighter accidentally should never seperated surgically.

Skin Contact: Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin. Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

Skin Adhesion: First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

Inhalation: Remove to fresh air and rest. If recovery is not rapid call for prompt medical attention.

Eyes: Cyanoacrylates bond eyelids in seconds. Irrigate thoroughly with water for at least 15 minutes. Take care not to wash chemical from one eye to another. If the eyelid is bonded closed, do not force open. Cover with wet pad soaked in warm water. Get prompt medical

attention, in case solid particles of cured cyanoacrylate trapped behind the eye cause any abrasive damage. Keep eye covered with wet pad until debonding is complete, usually 1-3 days. (Cyanoacrylate will bond to eye protein, causing a lachrymatory effect that aids debonding).

Skin: Do not pull bonded skin apart. Remove contaminated clothing. Wash with soap/cleanser and rinse with plenty of water. Any bonded skin should be gently peeled apart with the aid of a blunt object, preferably after soaking in warm, soapy water. If irritation persists, obtain medical attention. In the case of large spills on skin, superficial burns may occur-treat accordingly.

Ingestion: Ensure that breathing passages are not obstructed. Give plenty of water to drink. Do not induce vomiting. The product will polymerize immediately in the mouth, making it almost impossible to swallow. Saliva will separate the solidified product from the mouth over a period of hours. Seek medical attention.

Burns: Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn. Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

Surgery: It should never be necessary to use such a drastic method to separate accidentally bonded skin.

The major ingredient of super glue is cyanoacrylate, a methacrylate resin that cures almost instantly. The catalyst is hydroxyl ions in water, which is present in trace amounts on the surface of virtually any object one wishes to bond. The cyanoacrylate molecules begin to link on contact with water, and the chains form a durable plastic mesh. The glue thickens and hardens until movement of the molecular chains ceases.

Case Report

A 16 years old girl came from her school in MBS Hospital Kota in ENT OPD ON 02/12/16 at noon with history of lock jaw with history of superglue upper & lower jaw stuck firmly. There is no gap that was surprising case for us of our carrier. She was unable to speak, difficulty in swallowing or respiration. She was crying or crying only crying nothing else.



Fig. 1: When patient came in OPD

We had never seen like this case before in our OPD department or emergency.

We quickly take her in our procedure room where we say to her lying on table after it we wash teeth or gums with warm saline gently after it we anaesthetize with lignocaine jelly & LOX 10% spray. After applying all them there is formation of agglomerate/white colored coating.

After this we gently try to open with help of artery forceps & tongue depressor. There is small bit opening seen. After this one of our surgeons push upper & lower jaw opposite side also one surgeon poured warm saline drop by drop then there was full opening but there is some changes in mouth or oral cavity in tongue or buccal mucosa (redness /swollen) also. We was it with warm water & jelly also for reducing the pain or healing. After watching carefully all other part of GIT or Respiratory systems. We stop the patients for observation for hypersensitivity reaction. Then we prescribe some medicine & call her after 7 days or SOS.



Fig. 2: After the procedure

After 7 days she came & very good condition of oral cavity seen finally we all are very happy to see that successful case.

Discussion

None of method was reported for removal the super glue. In some literature written that resin can be softened by mineral oil but can't be used inside mouth but

margarine, natural source of high molecular weight oil, it may be use because it kept moist & left without any active interventions other than supportive case. The resin could eventually have been removed but there is no time specific , but it surely say that margarine helps to remove the resin much more quickly than it being left alone or without any active intervention. 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.

References

1. Pound E. Denture & facial esthetics. *Dent Surv.* 1962;38:35-43.
2. Persaud R. A novel approach to the removal of superglue from the ear *J Larygol Otol* 201;115:901-2.
3. Knight IJ Mistaken eye drops & subsequent instillation of superglue *Eye* 2001;15:663.
4. Mclean CJ. Ocular superglue injury. *J Accid Emerg Med* 1997;14:40-1.
5. Abadir WF, Nakhla V, C Hong P. Removal of superglue from the external ear using acetone: case report & literature review, *J Larygol Otol* 1995;109:1219-21.