

CASE REPORT

Superficial Second Degree Burn from Slime. Case report.

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ABSTRACT

In recent years, there has been a proliferation of articles and written communication on cases of allergic contact dermatitis caused by "slime", especially in children, with lesions located mainly on the hands. A pediatric case of very aggressive lesions located on the skin of the face and labial mucosa due to contact with this substance is presented, as well as a brief review of the literature.

INTRODUCTION

In recent years, articles and written communication about cases of allergic contact dermatitis caused by slime have multiplied, especially on children and teenagers, with lesions located mainly on the hands. Slime is a sticky substance and a very popular toy. Its use, as well as forms of preparation, etc., is heavily discussed online. This substance of viscose and elastic consistency has turned into a common educational and recreational tool in vacation camps. Nowadays, it is quite easy to find recipes online for its preparation, which entails mixing up home products, such as white erasers, shaving foam, detergents, contact lense solution, toothpaste, shampoo and borax (potent irritant which provokes intense chemical burns). When preparation does not include borax, the irritant effect decreases. However, there is always a level of irritation caused by sensitizing and irritant substances.¹⁻²

In short, slime is a mix of borate ions, proceeding from contact lense solution and sodium bicarbonate or borax™ detergent, which, mixed with polyvinyl acetate (school white eraser), generates polymer reticulation, forming a green gel of elastic consistency. (Fig.1).

This product can be made either at home with the aforementioned substances, or by buying the compounds. Furthermore, one can buy ready made slime, or a kit containing all the substances required for its preparation. Frequently, bakery coloring, purpurin, or corn starch, among others, are added to make the substance more appealing and colorful.



Figure 1. Slime. Green mass of elastic consistency. (Extracted from Trifunova K.'s article³)

CLINICAL CASE

9-year-old male patient, medical history without allergies, presents with lesions located on the right cheek, chin, labial mucosa and perilabial region. No lesions are observed on the hands. The patient's mother states that the clinical picture initiated two days before consult with a slime explosion affecting the face of the child while he was playing. The child's face was exposed to the substance during a significant period of time (the exact duration was not precised by the mother). Physical examination revealed erythematous, exudative, blistering lesions, with a crusty, hemorrhagic and desquamative surface, located mainly on the right cheek, lips, and perilabial region (Fig. 2 and 3). Lesions are accompanied by burning sensations, along with heat, edema and pruritus. The mother confirmed the mix contained borax. The process was identified as as superficial second degree burn from slime.

Decongestant wet towels, along with corticosteroid and antibiotic creams, antipruriginous (hydroxyzine) and oral antibiotics (fosfomycin) were prescribed. After a week, the patient's clinical picture showed great improvement, with just a discrete residual erythematous area, which resolved after a while.

DISCUSSION

LDermatitis from slime is a process, commonly located on the hands of children, manifesting as allergic³ or irritant² contact dermatitis. Boric acid, alcohol and glycol are the main culprits, leading to skin barrier disruption.⁵ Anderson et al's study⁴ examines the components of 48 different slime preparations. Through patch testing, they identify methylchloroisothiazolinone and methylisothiazolinone as the most common allergens.⁴



Figure 2. Lesions involving facial skin and labial mucosa. Figure 3. Right side of the face. Lesion on the cheek is appreciated in greater detail, manifesting erythema, scabs, rests of blister roof, lips with erosion and hemorrhage.

Atopic patients are prone to present allergic contact dermatitis from these. Clinical manifestations of dermatitis from slime are similar to those from atopic dermatitis, dyshidrotic eczema or other forms of allergic dermatitis. Among the effects produced are serious lesions on eroded, denuded or burnt skin.⁶ Consequently, Sharon Jacob⁷ recognizes Slime compounds as the “perfect storm” within contact dermatitis. It is important to note that most part of reports are based on lesions manifesting on the hands (palms and dorsum) or fingers, as demonstrated by Walker et al.⁸ in their study where they confirm the existence of just seven cases of contact dermatitis from slime with lesions located on the hands, similar to the cases published by Kondratuk et al.⁹ and Gosdopinova et al.¹⁰ Brazen et al. report a case presenting lesions on the hands and thighs caused by contact with slime and Play-Doh.¹¹ The severity of the lesions varies according to the quantity of the product, application period and preparation of the substance.¹² The clinical picture may manifest moderate to severe erythemas, xerosis, vesication, blisters, erosions, scabs, exudation, subsequent desquamation and even burns. Treatment includes steroid creams, along with emollients. It is also recommended to avoid contact with this type of products, especially for atopic patients and those suffering from allergic contact dermatitis.

CONCLUSION

This case is considered as relevant and worth reporting because of its unusual lesional location (face), as well

as the intense nature of the clinical picture, which involves an aforementioned superficial burn⁶ and reactions by inhalation or ingestion, which are severe as observed within the intense skin process the patient goes through. Parental control on the type of substances that children have contact with is recommended to avoid unnecessary risks from these toys.

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