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Archives of Paediatrics and Developmental Pathology

Case Report

Spectacle Frame Induced Contact Dermatitis- An Unexpected Allergen Hiding in Plain Sight

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Submitted: 06 October 2021

Accepted: 08 October 2021

Published: 21 October 2021

ISSN: 2641-774X

Abstract

The reports of allergic contact dermatitis secondary to spectacles have been sparsely reported. Cases with irritant reaction are even rarer. With an ever-rising trend of chronic exposure to bright screens, the proportion of bespectacled individuals have increased exponentially, including pediatric age groups as well. Herein we report the case of a 13-year-old girl who develop irritant contact dermatitis following the usage of spectacles secondary to chlorine.

INTRODUCTION

The reports of allergic contact dermatitis secondary to spectacles have been sparsely reported. Cases with irritant reaction are even rarer.[1,2] With an ever-rising trend of chronic exposure to screen, the proportion of bespectacled individuals have increased exponentially, including pediatric age groups as well. Since children are now constantly hooked to their parents' mobile or laptop screens, the age of onset of myopia has dramatically lowered and young children as old as 4 or 5 years of age have been rendered to wear glasses. Herein we report the case of a 13-year-old girl who develop irritant contact dermatitis following the usage of spectacles.

CASE REPORT

A 13-year-old myopic girl presented to us with complaints of itching, burning, and irritation over her bilateral cheeks, temples and retro auricular area since 5 days. On cutaneous examination there was presence of well demarcated erythematous and oozy plaques studded with papules over the sites where her spectacles rested. On inquiry patient told us that she had been wearing the same spectacles for the last 2 years and had never experienced a similar episode in the past. On examination of the spectacle frames, it was found to be small and tightly-fitted for the patient's facial parameters. They were made of cellulose acetate plastic material. The patient also reported that these lesions had developed after she went on a trip with her friends 6 days back where she had taken bath in a public swimming pool for the first time. The patient was suspected to have developed an irritant reaction to chlorine which further got confirmed by a positive patch test reaction of a 'decrescendo' nature, characteristic of an irritant reaction. The patient was advised to stop wearing here pair of spectacles and prescribed an alternative pair of loose-fitting spectacles which didn't cause repeated friction over her cheeks and temples. Mild topical steroids were prescribed followed by an uneventful recovery in the next one week.

DISCUSSION

The commercially sold spectacle frames are classified into plastic and metallic. An allergic contact dermatitis to metal is commonly reported, however, most plastic frames claim to be hypoallergenic. The diagnosis of an allergic reaction can be confirmed by a positive patch test. A patch test can also differentiate between an allergic and an irritant reaction.

Figure 1 Erythematous plaques over the site of contact with spectacle frames involving the temple and retro auricular area.

The key to identifying an irritant contact dermatitis is the distribution of lesions.[3,4] The tender skin of pediatric patients is much more prone to developing a barrier dysfunction that adults. Constant friction from framed glasses and the humidity under it can lead to disruption of skin barrier. This makes the compromised sites more favorable to develop dermatitis. Our patient had been using the same pair of glasses for the last 2 year, which ruled out any allergic reaction to the frames itself. The onset of lesions following a visit to the swimming pool was a strong pointed towards irritant reaction to chlorine. Since chemicals and particles can accumulate under the frames the occluded sites are favored for this type of reaction.

Unlike allergic contact dermatitis there is no immunological component in irritant dermatitis. Some irritants might be very mild on their own to cause a reaction and require a higher concentration than usual to cause an irritant reaction. In our case the accumulation of chlorine deposits under the frame lead to a higher concentration of chlorine at these sites, therefore, the well demarcation of lesions.

CONCLUSION

Irritant contact dermatitis can even be reported due to the most unexpected agents. It is often a dose dependent phenomenon and a dermatologist must always be on the look out to differentiate such presentation from other similar looking spotters.

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Cite this article

Mohta A (2021) Spectacle Frame Induced Contact Dermatitis- An Unexpected Allergen Hiding in Plain Sight. Arch Paediatr Dev Pathol 4(1): 1023.