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## Eyeglass allergic contact dermatitis

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## Abstract

Allergic contact dermatitis is a common problem. The distribution of the eruption with which a patient presents is the key to identifying the offending agent. The ability to quickly recognize characteristic presentations of common allergens is valuable. We present a case of red plaques on the face. The distribution of these plaques pointed clearly to eyeglasses as the cause. Eyeglass frames are manufactured from various materials that have the potential to act as allergens.

## Introduction

Contact dermatitis is a common problem. According to the National Institute of Occupational Safety and Health, occupational skin disease (OSD) is the second most common type of occupational illness. Contact dermatitis is the most commonly reported OSD, accounting for 90 to 95 percent of OSD in the United States, with an estimated annual cost exceeding one billion dollars. Approximately 20 percent of cases of contact dermatitis are allergic [1]. Countless substances cause allergic contact dermatitis including metals, cosmetics, plastics, solvents, and dyes, some of which can be found in the average eyeglass frame.

## Case

A 62-year-old female presented to the clinic with a three-week history of erythematous, scaly plaques of the maxillae (Figure 1). The one on the left side was larger than that on the right. Both were somewhat tender and pruritic. The patient reported a history of sensitivity to inexpensive earrings. Inspection of the patient's eyeglasses revealed marked wear of the frames at the location of contact with the maxillae, with more wear on the left than on the right (Figure 2).



Figure 1



Figure 2

Figure 1. Bilateral red, scaly maxillary facial plaques. The left

side was larger than the right.

**Figure 2. Exposed metal on sunglass frames. The patient's sunglass frames were worn in the areas that contact the maxillae. Arrows indicate the areas of wear. More wear is present on the left side than the right.**

## Discussion

No patch testing was done in this case to determine the exact component to which the patient had a reaction. A likely culprit is nickel in the frame. In response to the frequency of nickel allergy in the general population, some eyeglass companies have begun producing "nickel-free" frames. Glas and Egelrud, however, found that the varnish applied to frames could also be a source of nickel. They reported a case of allergic contact dermatitis caused by nickel in a patient wearing "nickel-free" eyeglasses [2]. Other causes of eyeglass allergic contact dermatitis include metals, rubber, plastics, plasticizers, solvents, UV stabilizers, antioxidants, dyes, and waxes [3, 4, 5]. Palladium on titanium eyeglass frames have also been reported to cause an allergic contact dermatitis [4].

Eyeglass allergic contact dermatitis can manifest in a variety of locations and in various forms. Maxillary involvement, especially when unilateral, may mimic actinic keratosis or squamous cell carcinoma in situ. The appearance of dermatitic changes of the maxillae is quite characteristic of a reaction to eyeglass frames. A recent report documented a case of allergic contact dermatitis affecting the nasal bridge and the retroauricular regions, which was attributed to the nose pads and temples of the eyeglass frame [6].

Characteristic eruption patterns present clues for dermatologists to seek out the likely allergenic culprit. In this case, our patient was not wearing glasses when examined. Upon questioning, she produced a pair of glasses that did not have worn areas on the frames. Because the eruption morphology pointed to eyeglass contact dermatitis, her provider persisted and suggested that the problem may be associated with a different pair of glasses. Sure enough, the patient retrieved her sunglasses from home, which were found to be the offending agent.

## References

1. [Skin exposure and effects](#). National Institute of Occupational Health and Safety: Safety and Health Topic, National Institute of Occupational Health and Safety, 2009 Sept.
2. Glas B, Egelrud T. Nickel in "nickel-free" spectacle frames. Contact Dermatitis. 1999 Apr;40(4):217. [\[PubMed\]](#)
3. Nakada T, Maibach HI. Eyeglass allergic contact dermatitis. Contact Dermatitis. 1998 Jul;39(1):1-3. Review. [\[PubMed\]](#)
4. Suhonen R, Kanerva L. Allergic contact dermatitis caused by palladium on titanium spectacle frames. Contact Dermatitis. 2001 Apr;44(4):257-8. [\[PubMed\]](#)
5. Leow YH, Ng SK, Goh CL. An unusual cause of post-auricular dermatitis. Contact Dermatitis. 2000 May;42(5):308. [\[PubMed\]](#)
6. Nakada T, Iijima M, Maibach HI. Eyeglass frame allergic contact dermatitis: does tacrolimus prevent recurrences? Contact Dermatitis. 2005 Oct;53(4):219-21. [\[PubMed\]](#)