

## Case Report

# Diplopia and Flashes of Light Sensation in a Patient with Fragrance Allergy

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### Abstract

Perfume allergy or perfume intolerance is a rare condition wherein people exhibit sensitivity or allergic reaction to ingredients in some perfumes and other fragrances. A 36-year-old female with fragrance allergy complaining of diplopia and flashes of light sensation was referred to Basir Eye Center for possible visual pathway disturbances. Hence we report the patient's visual evoked potential and magnetic resonance imaging.

**Keywords:** Diplopia; Fragrance Allergy; Anaphylactic Shock

**Article Notes:** Received: Jan. 01, 2020; Received in revised form: Feb. 17, 2020; Accepted: Mar. 08, 2020; Available Online: Jun. 23, 2020.

**How to cite this article:** Shushtarian SMM, Haji Naghitehrani K, Aflaki F. Diplopia and Flashes of Light Sensation in a Patient with Fragrance Allergy. *Journal of Ophthalmic and Optometric Sciences* . 2020;4(3): 47-9.



## Introduction

A perfume or fragrance allergy happens when someone has an allergic reaction after being exposed to perfume containing an allergen. It may happen by touching the perfume liquid or substance, getting sprayed by the perfume, and even its inhalation. Perfume allergy may have specific symptoms, such as sneezing, itching, headaches, nausea, and in severe cases, swelling in the mouth, lips, or tongues, and finally, anaphylaxis<sup>(1-3)</sup>. According to a survey on fragrance sensitivity, up to about 30 % of the population of the United States had an irritation. As many as 19 % of participants in the survey experience actual health consequences from fragrances<sup>(4)</sup>. Fragrance allergy can affect the eyes. Extreme eye redness, irritation, tearing, burning, and eyelid swelling are among the symptom of perfume allergy<sup>(5)</sup>. By comparison, there are rare reports of eye symptoms due to exposure to fragrance chemicals. It could always be assumed that these symptoms may occur along with another disorder like migraine<sup>(6)</sup>. Thus, it's essential to report the suspected case to provide more information for future evaluation of eye susceptibility to perfume.

## Case report

A 36-year-old woman was referred to Basir Eye Center for visual evoked potential. She was complaining of diplopia and flashes of light sensation along with headache. She explained how she faced terrible conditions while sensing the perfume smell in her colleague's working environment. She then encountered symptoms, such as headache, tingling, numbness, flashes of light sensation, hives, and finally, anaphylactic shock. No evidence in favor of multiple sclerosis was observed by looking at her routine examinations and magnetic resonance imaging. After performing the VEP

examination, no delay in the P<sub>100</sub> latency peak was observed in both eyes (96 and 98 msec for right and left eyes, respectively). Finally, by putting all patient's medical records together, an allergy along with migraine was diagnosed.

## Discussion

A patient with a fragrance allergy was referred for a visual evoked potential (VEP) examination. The VEP P100 peak was normal in both eyes, i.e., 96 and 98 msec in the right and left eyes, respectively (the normal value is about 100 msec). VEP originates from the visual pathway<sup>(7-11)</sup>. The advisor neurologist suspected demyelinating disease, which was ruled out by normal VEP, magnetic resonance imaging, and another related test in favor of demyelinating diseases.

The patient indeed simulates a condition suspected of demyelinating processes. However, it is considered that specific symptoms of migraine, allergy and demyelinating processes are similar in some instances. Thereby putting together all the records, the patient was diagnosed with migraine triggered by an allergy attack. The following reviews may support the above comment.

Anil Kumar et al. (2021) stated that in a type of migraine, i.e., hemiplegic migraine, unilateral motor weakness is observed as aura expression in at least less attacks. Motor weakness is not only kind of aura seen while hemiplegic migraine incidence after symptoms of aura are visual field defects, scotoma, hemianopia, tingling, numbness, ataxia, fever, or lethargy<sup>(12)</sup>.

One study suggests that in the process of dental treatment, patients may be exposed to a wide range of allergens. The symptoms of allergens

may be listed as follows:

stomatitis, burning, tingling, cheilitis, oral lichenoid lesions, and lip and facial swelling <sup>(13)</sup>.

Finally, a case report deals with a case of an anaphylactic reaction and respiratory distress resulting from a deliberate assault with a perfume spray. Moreover, the patient experienced a suffocating sensation, wheezes, generalized urticaria a, and anaphylactic attack <sup>(3)</sup>.

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### Conclusion

Migraine, allergy, and demyelinating process have specific common symptoms. A careful look at the medical examination is necessary to distinguish between them to reach the correct diagnosis.

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### Footnotes and Financial Disclosures

#### Conflict of interest:

The authors have no conflict of interest with the subject matter of the present manuscript.