

# Five Retained Soft Contact Lenses in the Upper Fornix: A Case Report in a Patient with Hemifacial Atrophy

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**Summary:** The displacement of a lost contact lens into the upper fornix is an uncommon occurrence. This case report presents a rare incidence wherein a patient diagnosed with hemifacial atrophy was found to have concealed five soft contact lenses within the left upper fornix during autologous fat injection into the retrobulbar space. (*Plast Reconstr Surg Glob Open* 2024; 12:e5563; doi: 10.1097/GOX.0000000000005563; Published online 30 January 2024.)

The displacement of a missing contact lens into the upper fornix, potentially leading to erosion through the conjunctiva, is a rare occurrence documented in medical literature.<sup>1-3</sup> Due to the pliable and hydrophilic nature of the material, soft contact lenses have been observed to persist within the upper fornix without producing noticeable symptoms for extended periods.<sup>2</sup> Patients with hemifacial atrophy often present with ocular manifestations such as orbital subcutaneous tissue deficiency and enophthalmos.<sup>4,5</sup> Autologous fat grafting is one of the effective methods to provide soft tissue restoration. Here, we report a case of a patient diagnosed with hemifacial atrophy, wherein a surprising discovery of a total of five soft contact lenses located within the left upper fornix was unfolded during autologous fat injection. Ethical approval for this study was obtained from the ethics committee of the Plastic Surgery Hospital, and all procedures were conducted in accordance with the principles outlined in the Declaration of Helsinki. The patient provided written informed consent for the publication of identifiable photographs.

## CASE REPORT

A 33-year-old female patient presented at our clinic with the chief complaint of facial contour asymmetry.

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She was otherwise healthy without any discomfort or specific symptoms. On physical examination, the atrophy of her left face and enophthalmos of her left eye were observed (Fig. 1). To achieve a more balanced facial contour, autologous fat grafting was suggested. After comprehensive discussion, consent acquisition, and the exclusion of contraindications, the patient opted for the procedure, which was performed under local anesthesia with intravenous sedation. While performing fat injection into the retrobulbar space, several transparent contact lenses migrated from the upper fornix. Following the double eversion of the left upper eyelid, a total of five soft contact lenses were discovered (Fig. 2). After the operation, it was confirmed that the patient had been wearing contact lenses for many years. She recollected instances of losing her left contact lens several times many years prior. Interestingly, she had not experienced any ocular symptoms before this surgical intervention.

## DISCUSSION

Lost contact lenses becoming lodged in the upper fornix has been documented in the literature.<sup>1-3</sup> Without the double eversion of the upper eyelid, the lens may persist there for an extended duration due to potential hindrance by upper border of the tarsus, restricting outward movement.<sup>6</sup> In this case, a total of five soft contact lenses were retained in the left upper fornix without causing any ocular symptom. To the best of our knowledge, it is the first report of a case with multiple hidden lenses. Patients with hemifacial atrophy often present with enophthalmos resulting from retrobulbar fat tissue atrophy, globe shrinkage, and bony structure changes.<sup>5</sup> Fat tissue atrophy and globe shrinkage also contribute to sinking of the floor of the hidden space. The changes of the orbital rim as well as the deficiency of the upper-eyelid soft tissue

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**Fig. 1.** Preoperative view of the patient.



**Fig. 2.** The retained soft contact lenses.

also lighten the load on the space ceiling. Therefore, this creates a larger room for lens retention. Fat injection causes the floor of the hidden space to rise, compressing the space and forcing the lenses out. Additionally, the expanded hidden space might reduce lens contact with surrounding tissue, increasing the likelihood of the lenses being asymptomatic.

The soft and hydrophilic nature of the soft contact lenses also makes them less noticeable. In this reported case, the patient did not present with any ocular symptoms before the surgery with five contact lenses hidden. However, long-term retention may increase the risk of adverse events such as corneal abrasion and microbial keratitis.<sup>7</sup>

For patients with hemifacial atrophy, there might be an increased potential for larger hidden spaces within the upper fornix, increasing risk of dislodged contact lenses being hidden.

Plastic surgeons should exercise caution when treating patients with hemifacial atrophy who wear contact lenses by conducting a comprehensive ocular examination, especially double eversion of the upper eyelid, before any surgical intervention.

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#### DISCLOSURES

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#### PATIENT CONSENT

*The patient provided written consent for the use of her image.*

#### REFERENCES

1. Zola E, van der Meulen IJ, Lapid-Gortzak R, et al. A conjunctival mass in the deep superior fornix after a long retained hard contact lens in a patient with keloids. *Cornea*. 2008;27:1204–1206.
2. Agarwal PK, Ahmed TY, Diaper CJ. Retained soft contact lens masquerading as a chalazion: a case report. *Indian J Ophthalmol*. 2013;61:80–81.
3. Rebhun CB, Tran AQ, Belinsky I. Superior fornix mass with retained soft contact lens. *Indian J Ophthalmol Case Rep*. 2021;1:34.
4. Schultz KP, Dong E, Truong TA, et al. Parry Romberg syndrome. *Clin Plast Surg*. 2019;46:231–237.
5. Bucher F, Fricke J, Neugebauer A, et al. Ophthalmological manifestations of Parry-Romberg syndrome. *Surv Ophthalmol*. 2016;61:693–701.
6. Roberts-Harry TJ, Davey CC, Jagger JD. Periocular migration of hard contact lenses. *Br J Ophthalmol*. 1992;76:95–97.
7. Bhatt Priya R, Lam Fook C, Roberts F, et al. Peripheral ulcerative keratitis due to a “long lost” hard contact lens. *Clin Exp Ophthalmol*. 2007;35:550–552.