BLINDNESS FROM FILLER

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Objectives

- Review cases of blindness after filler injection
- Understand mechanism of action
- Highlight key aspects of the vascular anatomy
- Review prevention and management strategies
Literature review

98 cases of blindness

 Symptoms
- Complete vision loss
- Ocular pain
- Headache
- Nausea & vomiting

 Outcomes
- 23 cases of CNS complications
- 1 case of death
- 2 cases only with complete vision recovery

Avoiding and Treating Blindness From Fillers: A Review of the World Literature

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BACKGROUND As the popularity of soft tissue fillers increases, so do the reports of adverse events. The most serious complications are vascular in nature and include blindness.

OBJECTIVE To review the cases of blindness after filler injection, to highlight key aspects of the vascular anatomy, and to discuss prevention and management strategies.

METHODS A literature review was performed to identify all the cases of vision changes from filler in the world literature.

RESULTS Ninety-eight cases of vision changes from filler were identified. The sites that were high risk for complications were the glabella (38.8%), nasal region (25.5%), nasolabial fold (13.3%), and forehead (12.2%). Autologous fat (47.9%) was the most common filler type to cause this complication, followed by hyaluronic acid (23.5%). The most common symptoms were immediate vision loss and pain. Most cases of vision loss did not recover. Central nervous system complications were seen in 23.5% of the cases. No treatments were found to be consistently successful in treating blindness.

CONCLUSION Although the risk of blindness from fillers is rare, it is critical for injecting physicians to have a firm knowledge of the vascular anatomy and to understand key prevention and management strategies.

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Cases of blindness from each filler type

* Filler type was not reported in 4 cases

**Filler type**
- Fat
- HA (Hyaluronic acid)
- Collagen
- Paraffin
- PMMA (Polymethyl methacrylate)
- Silicone
- PLLA
- CaHA
- PAH
- MDM (Micronized dermal matrix)

**Legend**
- HA = Hyaluronic acid
- PMMA = Polymethyl methacrylate
- PLLA = Poly-L-lactic acid
- CaHA = Calcium Hydroxylapatite
- PAH = Polyacrylamide hydrogel
- MDM = Micronized dermal matrix
Mechanism

Anatomy
Glabella, Forehead, Nasal region

Anatomy

Temple, Nasolabial fold, Medial cheek, Tear trough

Prevention

1. Know location & depth of facial vessels
2. Inject slowly and with minimal pressure
3. Inject in small increments
4. Move the needle tip between injection
5. Aspirate prior to injection
6. Use a small diameter needle
7. Smaller syringes are preferred to larger ones
8. Use caution if prior surgical procedure in the area
9. Consider mixing the filler with epinephrine
10. Consider using a cannula

Treatment

1. If ocular pain or vision changes, stop injecting at once
2. Immediately contact an ophthalmologist
3. Consider treating the injected area with hyaluronidase
4. Consider retrobulbar injection of 300-600 units (2-4 cc) of hyaluronidase
5. Reduction of intraocular pressure
6. Monitor the patient’s neurologic status


Dr. Katie Beleznay
Conclusions

• While blindness is a devastating complication, the risk is still exceedingly low
• Prevention and understanding the anatomy is critical
• Despite proper technique, the risk of complications remains
• Treatment protocol should be instituted urgently
References

8. Marcel Dekker; 1998. p. 145
23. The ophthalmic record. 1906;15:115-6. [2 cases]
44. JAMA Ophthalmol. 2014;132:714-23. [25 cases]