

# OSSN and Immunotherapy: A Hope for Scarless Recovery



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## INTRODUCTION

- Ocular surface squamous neoplasia (OSSN) encompasses neoplastic squamous abnormalities of the conjunctival, limbal and corneal epithelium<sup>[1]</sup>
- Corneal SCC usually occur as extensions of a pre-existing conjunctival SCC, making **isolated corneal SCC** a rare occurrence
- Corneal SCC refers to the dysplasia of the corneal epithelium and extension of the dysplastic process into the Bowman's layer and corneal stroma by penetrating the epithelial basement membrane
- CIN is the premalignant lesion of corneal SCC

## CASE REPORT

- A 60-year-old woman presented with a **fleshy mass growing in the left eye since 6 months** and diminution of vision in the same eye since 3 months
- The mass was initially pea sized
- She had no other ocular complaints or history of comorbidities
- Visual acuity of left eye was only perception of hand movements in the infero-nasal quadrant
- Diffuse light examination revealed a greyish pink, well-defined, gelatinous, fleshy, flat mass encroaching on the **superior 3/4th of the cornea and extending up to the limbus**
- A **few dilated and tortuous feeder vessels** were noted on the temporal aspect of the bulbar conjunctiva
- Rest of the conjunctiva appeared normal
- She tested negative for both HIV 1 and 2

## MANAGEMENT

- She was initially advised topical immunotherapy for reduction in the tumour size followed by surgical excision of the residual lesion
- Treated with **Interferon alpha-2b**, 1 million IU/ml eye drops 4 times a day for three months
- At the 3-month follow up, the lesion completely regressed without leaving any residual mass or corneal opacity. The feeder vessels also showed regression. Her visual acuity in the left eye improved to 6/12. Fundus examination of both eyes were normal
- She was advised to continue the Interferon therapy for 3 more months and regular follow ups for 6 months



**Fig.1.** OSSN involving the cornea and limbus in the left eye prior to interferon therapy



**Fig.2.** Left eye after 3 months of interferon therapy; complete tumour regression

## DISCUSSION

- OSSN though a rare occurrence, are the most common ocular surface tumour
- Although multifactorial in origin, they are mostly associated with advanced age, actinic ocular damage and immunodeficiency
- Conjunctival SCC is the most common variant under OSSN. However, this is an atypical case of an isolated corneal SCC with limbal involvement without conjunctival origin or involvement
- High mitotic potential of cells at the limbus, may cause neoplastic lesions of the cornea as they migrate centripetally<sup>[2]</sup>
- Diagnosis of OSSN can be missed due to an inadequate index of suspicion
- This patient presented at an advanced stage making the case tricky

## DISCUSSION

- The case was **clinically diagnosed without histological support** as it would involve performing a complete excisional biopsy via the no-touch technique
- Obtaining such a biopsy would result in extensive scarring of the cornea and a risk of leaving residual lesions or prompting metastasis
- Hence, immunotherapy using Interferon alpha-2b was advised to reduce the lesion prior to surgery
- It has shown positive outcomes in tumour debulking prior to excision and has an efficacy rate ranging from 80% to 100%<sup>[3]</sup>

### Benefits of Immunotherapy

- High efficacy
- Low chance of recurrence
- Low chance of limbal stem cell deficiency
- Prevents corneal scarring
- Comparable treatment cost

## CONCLUSION

- Dysplastic changes in the rapidly dividing limbal cells might be the cause of neoplastic changes in the cornea
- Immunotherapy using Interferon alpha-2b can be tried in patients with corneal SCC prior to tumour excision as a treatment modality owing to its **effective and less complicated outcomes**

## REFERENCES

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