



## OFF-LABEL USE OF INTERFERON ALPHA 2B EYE DROPS IN CORNEAL INTRAEPITHELIAL NEOPLASIA: A CASE REPORT

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### BACKGROUND AND IMPORTANCE

**Corneal Intraepithelial Neoplasia (CIN)** is the most frequent tumor of the ocular surface. Treatment options include excisional biopsy and **topical adjuvant eye drops**: mitomycin (MMC), 5-fluorouracil (5FU) and interferon alpha-2B. The use of **interferon alpha-2B eye drops confers advantages** such as its availability, safety and efficacy, in addition to the absence of serious side effects compared to 5FU and MMC. The usual dosage regimen for interferon alpha-2B eye drops is 1 drop 2-3 times per day.



### AIM AND OBJETIVES

To describe interferon alpha-2B eye drops preparation as a magistral formula as well as to evaluate the effectiveness and safety of this treatment in a patient with CIN.

### MATERIALS AND METHODS

1

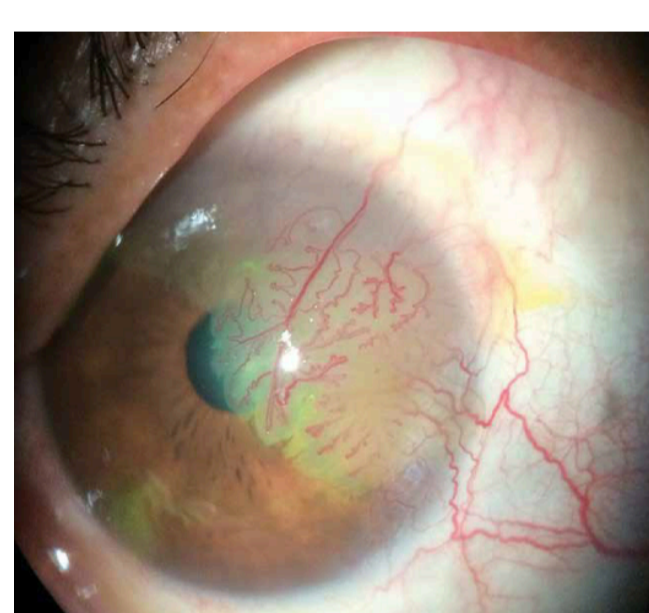
We ran a descriptive study of a **39-year-old man diagnosed with CIN in the left eye.**

2

In February 2024, **surgical intervention was ruled out due to the high risk of general anesthesia** for the patient **due to his medical history**: perinatal encephalopathy secondary to cerebral hemorrhage, obstructive hydrocephalus and West Syndrome.

3

For this reason, **physicians decided to start off-label treatment with 1 MUI/mL interferon alpha-2B eye drops.**



### RESULTS

The elaboration was carried out taking 1mL (5 MUI) from the reconstituted vial of interferon alpha-2B and filling it out with sterile water for injections to get a final volume of 5 mL, resulting in a 1 MUI/mL concentration. The mixture was prepared in a horizontal laminar flow hood. It was filtered through a 0.22µm filter and placed in a sterile eye drop bottle. **The preparation was kept in cold storage (2-8°C) and an expiration date of 7 days was assigned once opened.**

A total of 28 interferon alpha-2B eye drops were dispensed from March to October 2024. **The patient presented good tolerance** (no adverse effects) **but no reduction of lesions and symptoms after 3 months of starting treatment.** However, in **July 2024 improvements in lesions were observed** so it was decided to continue with treatment. In **October 2024, the patient shows no improvement and surgery was considered.**

### CONCLUSION AND RELEVANCE

**The formulation was simple** and did not require much preparation time. Our experience shows that **interferon alpha-2B eye drops appear to have moderate efficacy in patients with CIN with a safe adverse effect profile**, although further studies are required.