

Case Report

Corneal and Conjunctival Intraepithelial Neoplasia – A Case Report

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Abstract:

A 65-year old male presented with a reddish mass in left eye with diminution of vision for past four months. Based on clinical examination, a probable diagnosis of ocular surface squamous neoplasia with mature cataract was made. Excision biopsy of the lesion demonstrated intraepithelial neoplasia involving cornea and conjunctiva. Post-operatively patient was put on topical mitomycin -C (0.01%) eye drops 4 times a day for 12 weeks. Cataract surgery was done in the same eye 3 months after cessation of topical Mitomycin-C (MMC) treatment. Follow-up was done for 18 months. Patient's vision improved to 6/9 in left eye.

Key Words: Corneal and conjunctival intraepithelial neoplasia, topical mitomycin C, cryotherapy.

Introduction:

The Corneal conjunctival intraepithelial neoplasm (CCIN) is an uncommon benign slowly progressive lesion with low malignant potential. Generally it occurs in the inter palpebral fissure, usually at the region of limbus, although it may be found elsewhere. Corneal conjunctival intraepithelial neoplasm may be associated with U-V light exposure, human papilloma virus infection, AIDS etc. Management of these lesions includes excision biopsy with adjunctive cryotherapy and topical mitomycin-C (Prabhasawat et al, 2005; Daniell et al, 2002, Sheilds et al, 2002). It is more aggressive and occurs at a younger age in patients with HIV.

Here we report the clinicopathological features of CCIN and results of using topical MMC after surgical excision of the neoplasm.

Case report:

A 65-year old male presented with history of a reddish mass in the left eye with diminution of vision for the past 4 months. On examination, there was a pink coloured papilliform mass of about 10mm x 12mm x 5mm size present on the nasal limbus of the left eye along with involvement of adjacent corneal epithelium for about 3mm. Milky white cataract areas were seen in the pupillary area (Fig.I). His vision was reduced to just perception of light in left eye. Regional lymph nodes were not palpable. On the basis of clinical findings a diagnosis of CCIN with mature cataract left eye was made.

Excision biopsy of the lesion was done using a non-touch technique. During the entire surgery a dry field was maintained without balanced salt solution (BSS) irrigation to prevent tumour cell seeding

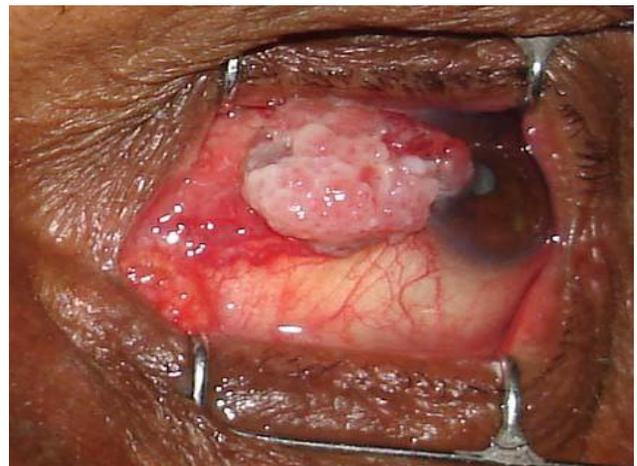


Fig. I: Clinical photograph showing a papillary mass on the nasal limbus of the left eye with mature cataract.

(Fig. II). irrigation to prevent tumour cell seeding (Fig. II). The excised mass was sent for histopathological examination. Cryotherapy was applied to the margins of the remaining bulbar conjunctiva by the double freeze thaw technique. The conjunctiva was closed with 8/0 vicryl suture. Post-operatively patient was put on topical mitomycin-C (0.01%) eye drops 4 times a day for 12 weeks. Ocular irritation and conjunctival hyperemia was observed during the treatment period which disappeared spontaneously on cessation of MMC drops. There was no serious complication that necessitated stopping of the treatment. Cataract surgery was done in the same eye 3 months after cessation of topical MMC treatment (Fig.III). Total cure was achieved. Patient's vision also improved to 6/9 in left eye. The patient was followed up using slit lamp biomicroscopy for recurrence or any other ocular manifestations, every month for 6 months and then every 3 months for another 18 months.

The histopathological study of excised mass was suggestive of conjunctival and corneal intraepithelial neoplasia (Fig. IV).

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Fig. I: Post operative photograph after excision of the neoplasm.



Fig. III: Post operative photograph after excision of the neoplasm and cataract.

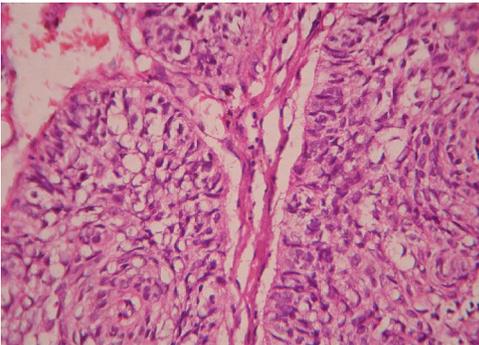


Fig. IV: Histopathological picture of the limbal mass showing conjunctival intraepithelial neoplasia.

Discussion:

Surgical excision of CCIN is associated with high rate of recurrence. It requires a non-touch specialized technique of excision to prevent recurrence. The tumour edges and deep margins are often difficult to determine. The tumour edges are often clear and avascular leading to a false sense that the tumour is smaller than it actually is.

Management of these cases is by surgical excision with cryotherapy and use of topical chemotherapeutic agents like MMC, 5 fluorouracil or interferon (Prabhasawat et al, 2005; Daniell et al, 2002; Shields et al, 2002; Boehm et al, 2004). Other researchers have successfully used combination of these treatment modalities (Huerva et al, 2006; Di Pascualae et al, 2002). Recent studies have shown a recurrence rate of approximately 50% when there

is pathological evidence of residual tumour in the surgical margins and 5% to 33% recurrence rate with clear margins (Eequeazi et al, 2005). Thus, management of these lesions is best done with combined therapy.

This patient was treated with excision biopsy with adjunctive cryotherapy and MMC drops for 12 weeks. This helped in controlling tumour margins and preventing recurrence.

MMC is a potent cytotoxic agent that inhibits DNA synthesis resulting in cell cycle arrest in the synthesis phase. Dudney & Malecha (2004) reported that although MMC is effective in eradicating CCIN, a limbal stem cell deficiency may complicate the treatment. Therefore, in an attempt to decrease the incidence of side effects, a relatively low concentration of MMC (0.01%) was used.

It is important to have a high index of suspicion for CCIN and to follow a specific protocol based management plan rather than subjecting the patient to incomplete or partial treatment which not only increases the chances of recurrence, but also makes subsequent management more complicated.

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