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Bevacizumab in Complicated Anterior Segment Disease

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Introduction

- Angiogenic ocular conditions cause a significant burden on the patients due to its considerable effect on vision and a major challenge to the treating physician.
- Management of such cases have been delayed due to lack of safe and effective therapeutic modalities.
- Most of the successful ocular pathologies treated with Bevacizumab were given intravitreally.

Purpose

- To evaluate the efficacy of off-label topical Bevacizumab in managing four complicated cases with corneal neovascularisation (NV).

Methods-1

- A case series
- Four young patients (mean age of 29)
- Etiology of NV, 2 eyes Infection, and 2 eyes Inflammatory.
- Followed up minimum of 3 months.

Methods-2

- Topical Bevacizumab 5mg/ml or 10mg /ml, four times per day for the first month
- Frequency was adjusted if clinically indicated.
- Efficacy variables were NV area; the area of the total corneal covered by the vessels and adjacent conjunctiva.

Results-Case 1

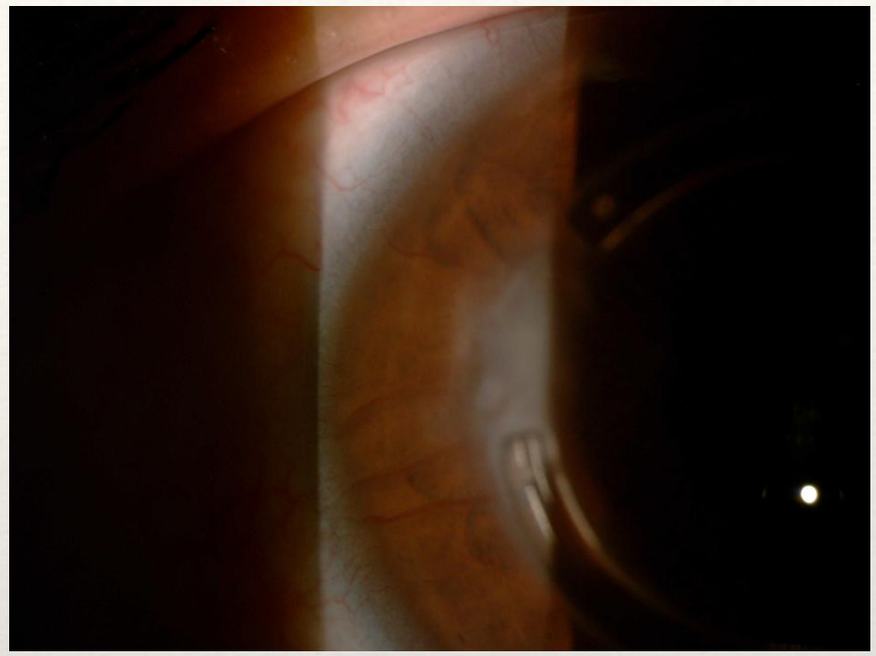
35 yrs old male

NV post intracorneal ring insertion in a patient with keratoconus.

Minimal extrusion of the tip, which was managed by application of tissue glue.

NV formed secondary to intense inflammation from the glue.

Before



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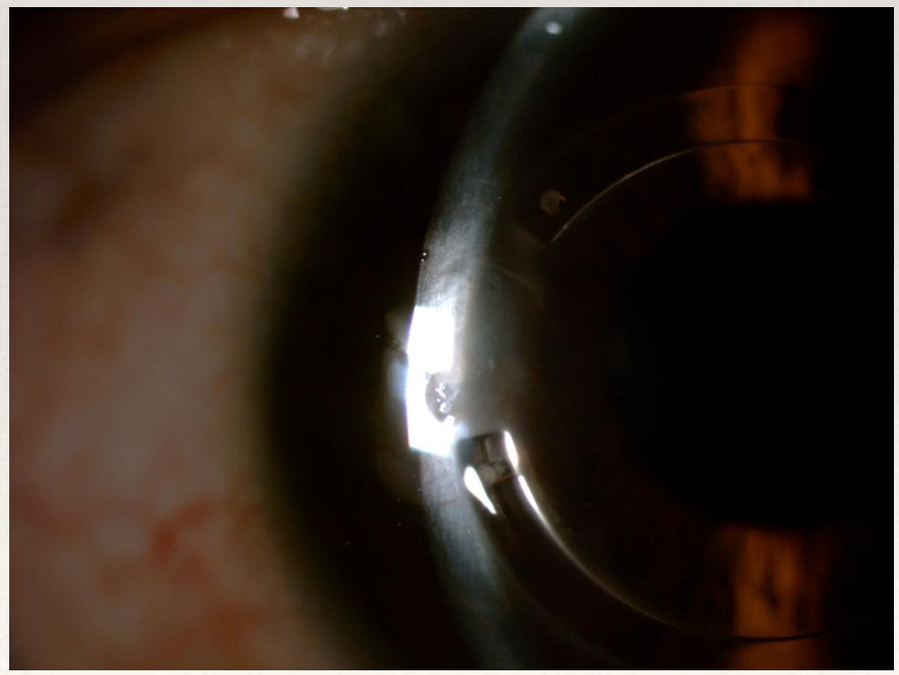

Results-Case 2

19 yrs old male

Recurrent aggressive pterygium

Initially managed elsewhere.

Due to suspicious appearance of possible malignant lesion.

Combined management of pterygium excision +cryotherapy and amniotic membrane application were used.

No complications were encountered.

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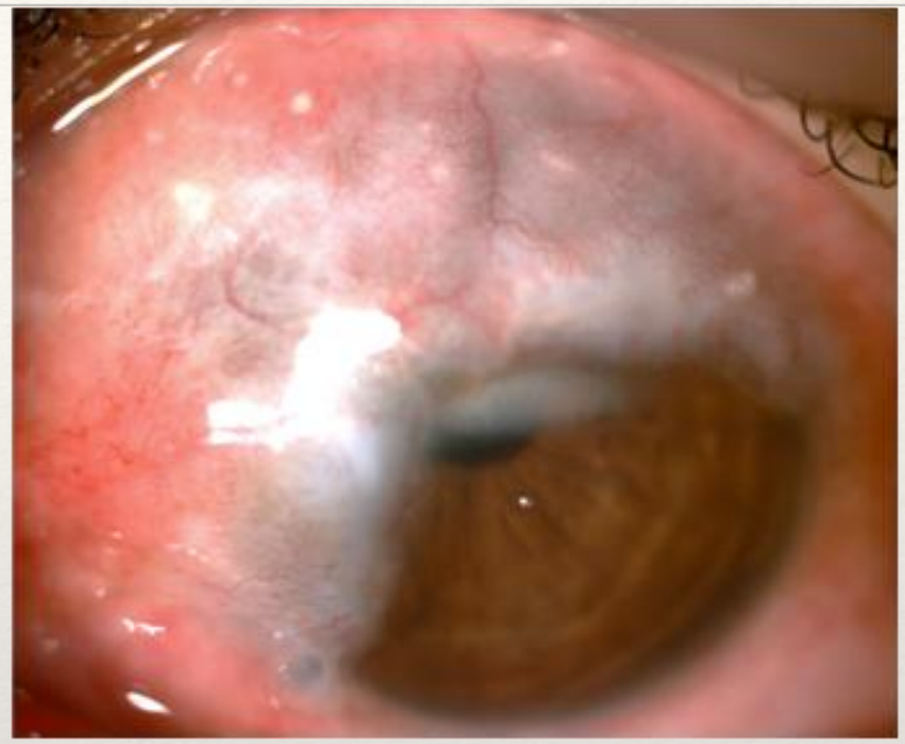

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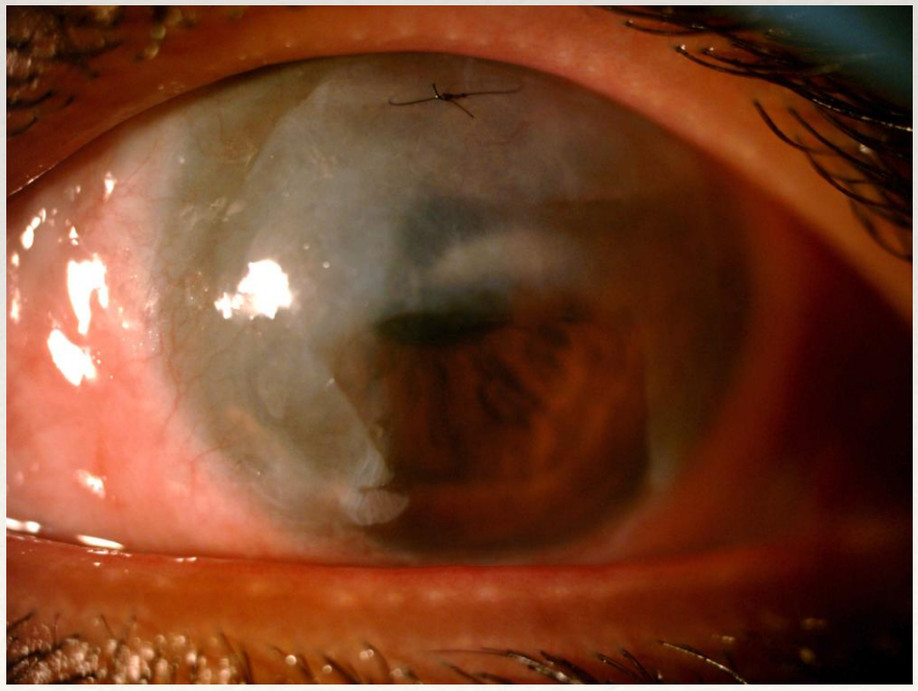

Results- Case 3

32 yrs old female

Complicated history with recurrent corneal melt, requiring multiple tectonic lamellar corneal transplants.

Final transplant was indicative of herpes simplex virus identified by immunohistochemisty.

Images at presentation and final result.

No complications were encountered.

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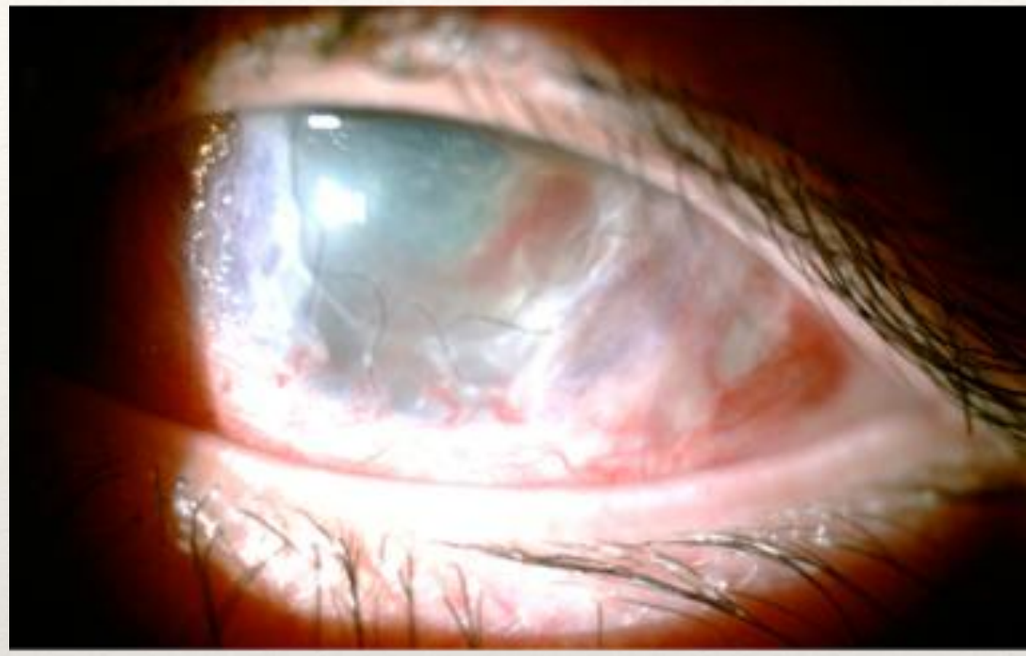

After

Results-Case 4

30 yrs old female

Had intrastromal corneal rings in Egypt

2 weeks later developed corneal ulcer

Perforated her cornea

Underwent tectonic graft somewhere else

Developed dense pupillary fibrovascular membrane. Drops were used in preparation for the graft.

Followed by corneo-scleral graft

No complications were encountered.

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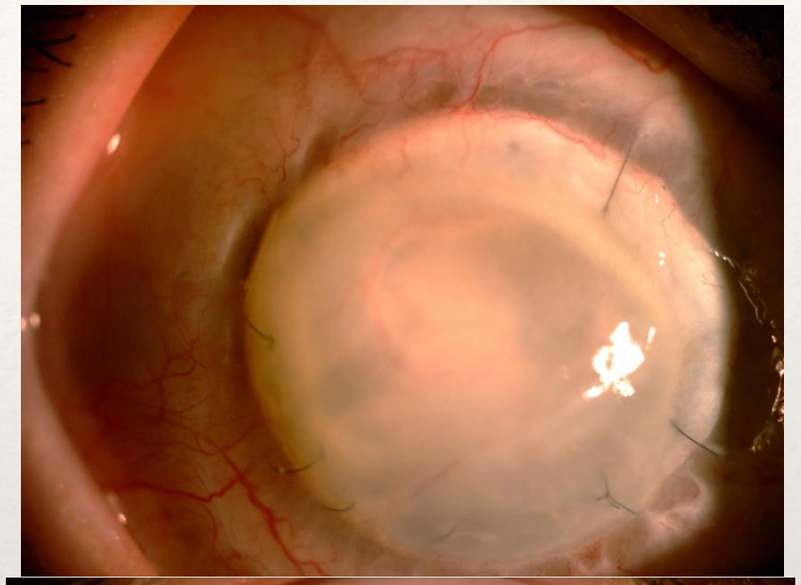

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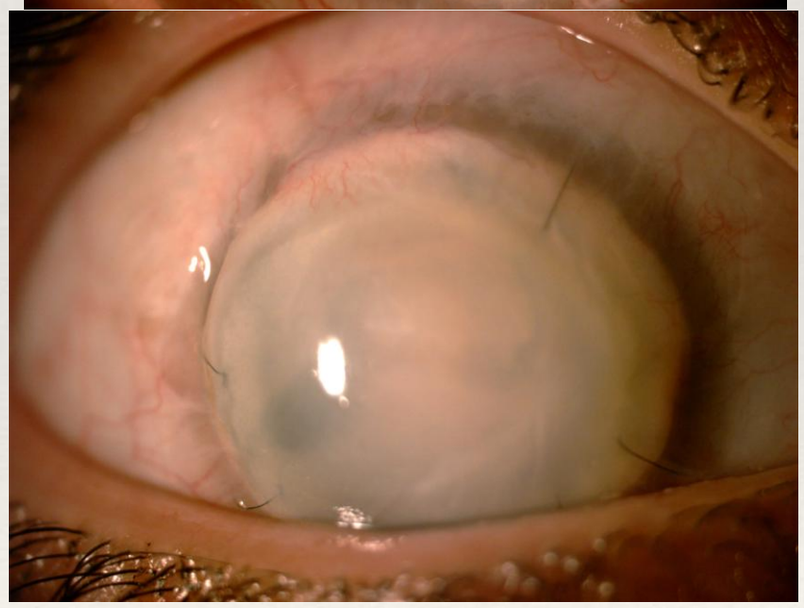

n all cases, no side effects were encountered during and after treatment

Discussion

- Most studies found in literature were on animal models.
- Topical or Subconjunctival administration of Bevacizumab showed comparable results of efficacy.[1,3]
- Different anti-vascular endothelial growth factor agents show similar efficacy.[2,4]
- A single case report found in literature had a comparable result to our patient in this series with impending recurrent pterygium.[5]

Conclusion

- Bevacizumab (off-label use) is a safe and effective adjunct therapy for complicated specific anterior segment diseases.
- Though safe, physicians have to be aware of the potential side effects.[6]
- The 4 eyes treated showed partial regression of corneal NV.
- This may be attributed to penetration or other unknown angiogenic factors besides VEGF.
- Larger prospective randomized controlled trial are needed

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