

# **WHORL-LIKE PIGMENTED CORNEAL DEPOSITS IN A PATIENT WITH SEVERE ATOPIC KERATOCONJUNCTIVITIS**

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# PURPOSE

- We report a case of a patient who presented with a two year history of photophobia, redness and constant tearing of both eyes. The patient was noted to have severe bilateral keratoconjunctivitis and significant atopic dermatitis. In addition to the typical inflammatory picture of atopic keratoconjunctivitis, he was noted to have whorl-like pigmented subepithelial deposits in his corneas.
- To our knowledge, this is the first report of this finding in a patient with atopic keratoconjunctivitis (AKC).



# INTRODUCTION

AKC is characterized by chronic conjunctivitis and keratitis in the presence of eczema. <sup>4</sup>  
Keratoconjunctivitis can be present in up to one third of patients with atopic dermatitis. <sup>3</sup>

- AKC is a severe type of ocular allergic disease. It can lead to chronic inflammation of the cornea and conjunctivita. <sup>1</sup>
- Some of the disorders of the ocular surface that have been described in AKC include epithelial defects, conjunctival and corneal scarring, corneal vascularization and decrease in vision <sup>1, 3</sup>.
- These clinical manifestations are believed to be due to the ocular inflammatory process and the release of allergic mediators to the ocular surface and tear film <sup>2</sup>

# MATERIALS AND METHODS

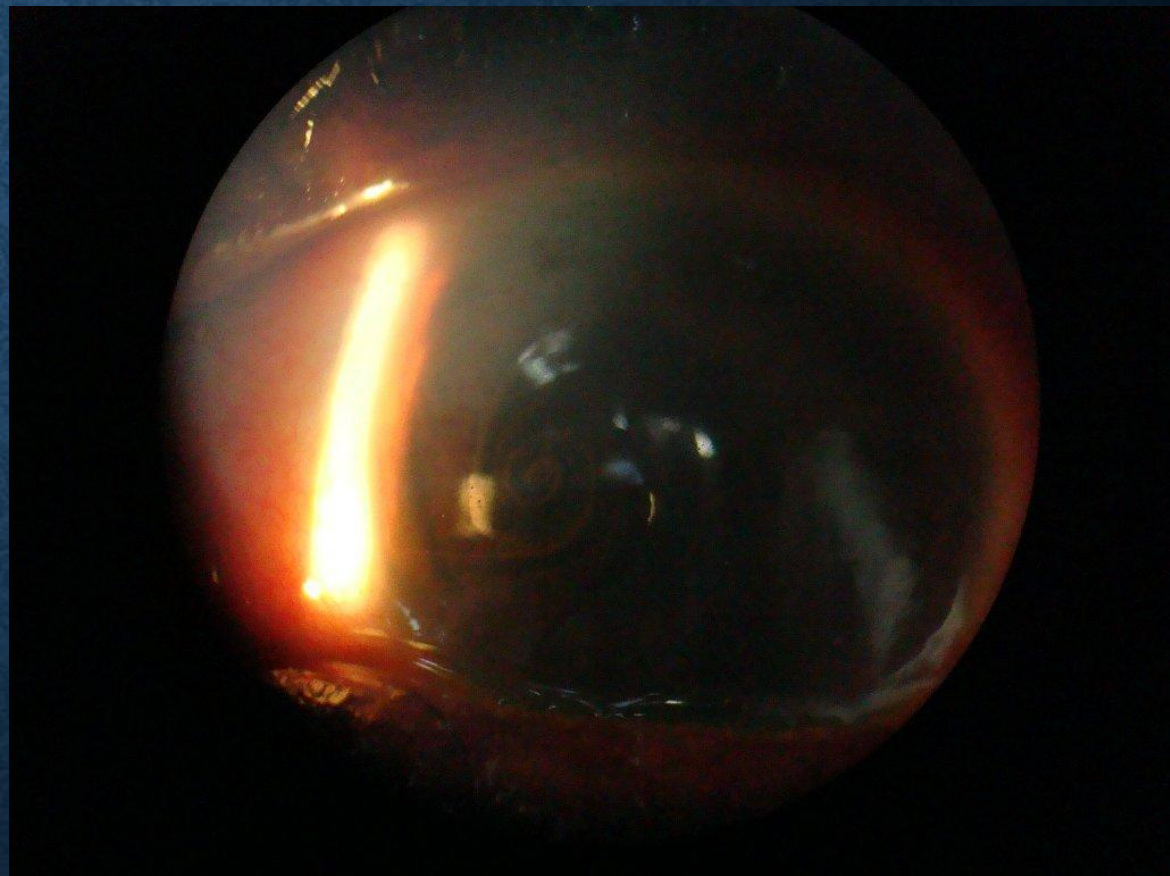
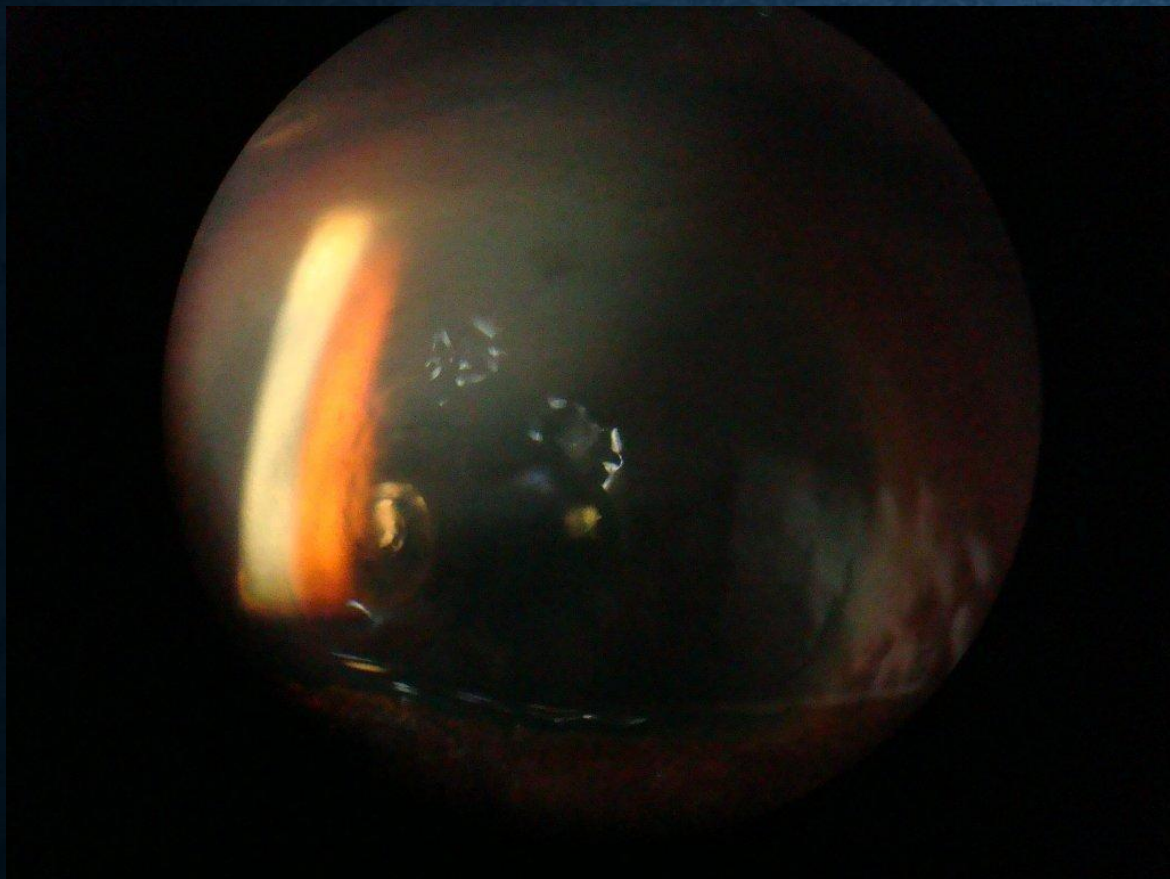
- Chart review of a 49 year old African American male who presented to the eye clinic with ocular redness, constant tearing, debilitating photophobia and decrease in vision
- The patient described a two year history of recurrent ocular irritation, blurry vision and photophobia. He had been treated previously with topical medicines in another institution, without noticeable improvement.
- The patient was not on any systemic medications



# CASE REPORT

- Physical exam revealed signs of eczematous changes on the extensor surfaces of the patient's extremities with scaly, leathery upper and lower eyelids. The lid margin also revealed blepharitis.
- The vision was 20/40 and 20/70 respectively.
- In addition to 2+ conjunctival injection and melanosis oculi, there was 4+ fine papillae in the superior and inferior tarsus.
- The corneal epithelium was rough with bilateral whorl-like sub-epithelial pigmented and iron deposits.
- The patient denies taking any medications that result in corneal whorl-like deposits.

# CASE REPORT





# RESULTS

- The patient was started on topical steroids, in combination with a mast cell stabilizer/anti-histamine drop. Cyclosporine 0.05%, frequent preservative free lubricants and eyelid hygiene were also added to the regimen.
- The patient's vision, photophobia and epiphora all improved as the ocular inflammation subsided.
- The subepithelial whorl-like pigmented deposits remained unchanged.
- The patient was also referred to a dermatologist to manage his systemic atopic disease.

# RESULTS

- During the course of the patient's treatment, he presented with episodes of epithelial defects. These were treated with antibiotic ointments in addition to the other treatment regimen.
- Episodes of worsening blepharitis were treated with continued eyelid hygiene and azithromycin solution



# DISCUSSION

- Patients with AKC may present with varied manifestations of the conjunctiva and cornea.
- Several of these manifestations have been well documented and the severe conjunctival inflammation is believed to induce the corneal lesions that may occur.<sup>2</sup>
- The ocular surface disease of atopic dermatitis (AD) has been shown to be characterized by tear film instability, goblet cell loss and other cellular changes in the conjunctiva.<sup>2</sup>

# DISCUSSION

- These whorl-like sub-epithelial deposits were bilateral and pigmented. It was a similar pigmentation seen in this patient of African American decent who was noted to have bilateral ocular melanosis.
- It is the believe that the recurrent and chronic epithelial defects coupled with an unstable tear film, ocular and systemic inflammatory process of AD may have left the cornea vulnerable to the deposits in this whorl-like pattern.



# CONCLUSION

- There are several well documented ocular findings in atopic disease. Most of which result from chronic inflammation of the conjunctiva and cornea. Whorl-like pigmented corneal deposits are another finding that may be present in chronic atopic keratoconjunctivitis. Even in the face of these deposits, other presenting signs of AKC can be successfully treated.
- To our knowledge this is the first report of this finding. These deposits do not appear to be visually significant.

# REFERENCES

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