

Keratoconjunctivitis Sicca (KCS) with Neurotrophic Keratitis (NK)

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INITIAL PRESENTATION

A 75-year-old female was referred for chronic dry eye OU. Her symptoms included mild, intermittent dryness and some light sensitivity. She had recently had cataract surgery and felt that her symptoms worsened after the procedure; although it is likely that her condition previously existed and was exacerbated by the surgery.

She was using over-the-counter artificial tears, warm compresses and cyclosporin drops twice a day.

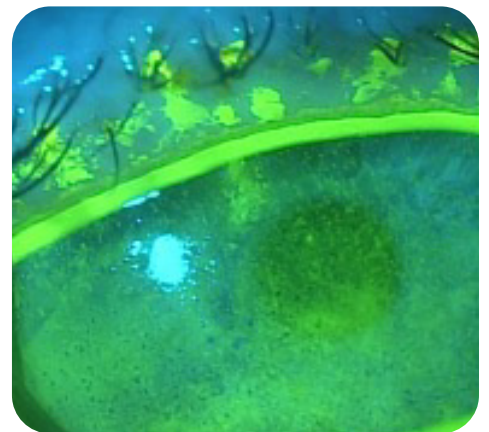
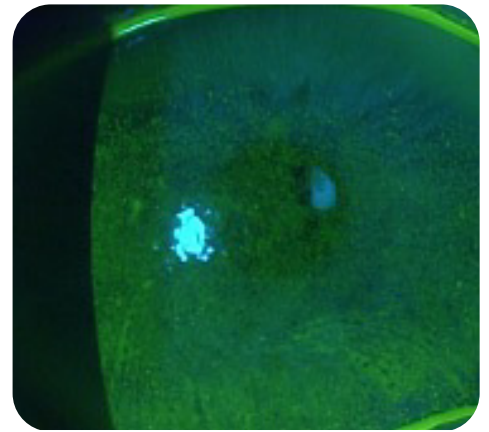
ENTRANCE EXAM

VA was 20/40 +1 in the right eye and 20/30 -2 in the left eye, which was a significant reduction considering the recent cataract surgery. Osmolarity testing revealed very elevated osmolarity of 333 in the right eye and 328 in the left. IOP was normal.

Slit lamp exam showed mild, grade 1 blepharitis and injection of the conjunctiva OU with grade 1 staining nasal and temporal. Corneal staining was significant with a grade of 3+ in the right eye and 4 in the left eye, and tear meniscus height was reduced.

DIAGNOSIS

The patient was diagnosed with Keratoconjunctivitis Sicca (KCS) and evaporative dry eye. She was also tested for neurotrophic keratitis (NK) by evaluating corneal sensation with dental floss ~~at 3 o'clock, 6 o'clock, 9 o'clock and centrally~~. Her readings were significantly down in both eyes with most being zero, clearly indicating NK.



ENTRANCE EXAM

inferior staining observed OU with a short tear break-up time

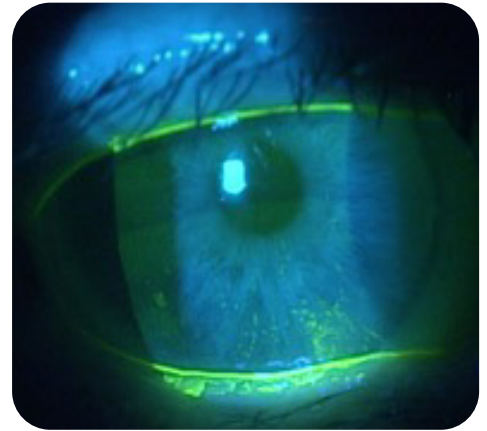
TREATMENT PLAN

I ordered Vital Tears serum tears at 40% concentration, which is my typical starting point for NK patients. In the past, I've started these patients on the 20% concentration and almost always end up increasing the concentration to 40%. The patient was also given hydrating compresses and omega-fatty acid supplements for the evaporative dry eye and vitamin A ointment for the conjunctival staining. Given the reduced tear meniscus height, punctal occlusion may be considered once the inflammation is under control.

FOLLOW-UP

Four months later the patient came in for a follow-up and reported an improvement in her symptoms, although she still had some dryness. Her vision was dramatically improved going up to 20/25 +2 in the right eye and 20/20 -2 in the left. Conjunctival staining was graded at 1+ temporally and 2- nasally. Corneal staining had improved to a 1+ inferiorly and trace amounts centrally. Her lids showed little to no MGD and her osmolarity was normal. The only clinical sign remaining was the reduced tear meniscus height, which would be addressed with punctal occlusion.

My plan to manage this patient included serum tears at a reduced concentration of 20-25% six times per day to maintain her success. She also continued using hydrating compresses, fatty-acid supplements and vitamin A ointment, as there is no downside to these therapies.



FOLLOW UP
marked improvement observed in
conjunctival and corneal staining

TAKE HOME POINTS

NK is more common in long-standing KCS than we originally suspected. In this case, it was likely present before the cataract surgery but may have advanced at that time, or the patient may have been more aware of her eyes after surgery.

I've found that higher concentrations of serum tears are typically required in early NK management, but these patients can be maintained on lower concentrations of serum in the long term.

Dr. Karpecki is a consultant/advisor to: BioTissue, Cambium Medical Technologies and Vital Tears.