Phlyctenule Gone Rogue: Chronic Phlyctenulosis in an 11 Year-Old

Phlyctenular keratoconjunctivitis is a noninfectious inflammatory process of the ocular surface with a distinct mechanism: an immune reaction to amicrobial antigen, causing a nodule.1 This case highlights treatment on a pediatric patient.

Phlyctenulosis is a non-specific allergy to a variety of antigens, the most common being tuberculoprotein and staphylococcal antigens.2 Originally seen in tuberculosis patients, this condition also presents in chronic marginal staphylococcal disease.1 The immune reaction creates nodules in the conjunctiva or cornea. Conjunctival phlyctens (Ex. 1) are transient and asymptomatic but corneal phlyctens (Ex. 2) present with lacrimation, photophobia and blepharospasm and tend to leave opacities which can lead to permanent vision impairment.2 Superficial neovascularization can develop within these lesion and subsequent phlyctenules can then arise from the borders of the prior attacks.1 With multiple reactions, a phlyctenule thus appears to wander across the cornea.

Clinical Exam
- Visual Acuity: 20/50, PH 20/30 OD, 20/30 OS sc
- Autorefractor: -0.75-0.25x090 OD, -0.75-0.50x090 OS
- Anterior Segment: Lids: Blepharitis OU
- Cornea OD: Phlyctenular migration with neovascularization noted to the pupillary border, central ulceration forming
- Other Anterior Segment unremarkable

Treatment and Management
- Initiated 24 hour anti-infection treatment of Vigamox every hour, Ciloxan ointment hs, and1gtt Cyclogel in office for photophobia and pain control
- Cornea specialist consulted: discontinued Vigamox, initiated Pred Forte 4 times a day for 1 week
- Pred Forte taper of 1 drop per week, duration 1 month total
- Small central scar (1x2mm) remains with leading neovascularization vessel, the rest have resolved
- With refraction, BVA: 20/20 OD and 20/20 OS
- Interferon Gamma Release Assay (IGRA) lab was negative for Tuberculosis infection

Discussion
- Despite appearance of infection, lesions are inflammatory
- In pediatric cases, phlyctenules often require chronic therapy3
- Tuberculosis phlyctenules may have associated cutaneous disease in pediatric patients2
- Pred Forte (Prednisolone Acetate 1%) considered low risk of fetal harm in pregnancy, deemed safe for pediatric patients4
- Restasis (Cyclosporin 2%) is used for long-term therapy in severe disease for patients whom are steroid responders5
- In this case, cornea specialist considered Avastin injection at limbus if neovascularization did not resolve
- Treat other disease contributors such as Blepharitis and other marginal staph disease
- Consider workup for Tuberculosis

Conclusion
- This is a toxic reaction to an antigen, non-infective
- Anti-inflammatories are first line therapy for fast resolution
- Necessary to rule out other disease contributors due to chronicity typical in pediatric patients with phlyctenulosis

References: