Experience of utilising 0.1% cyclosporine as a long-term treatment in children with severe vernal keratoconjunctivitis

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BACKGROUND

- Vernal keratoconjunctivitis (VKC) is a rare, chronic and severe form of allergic conjunctivitis; an eye disease characterised by inflammation of the ocular surface and conjunctiva [1].
- Although the condition is often self-limiting and tends to resolve by the end of puberty, a subset of patients can develop sight-threatening complications if not treated properly.
- Topical cyclosporine A (CsA) 0.1% has been shown to be an effective steroid sparing agent in the management of severe VKC.

Primary aim: To investigate if cyclosporine 0.1% eye drops are being utilised correctly.

METHODS

- We designed a retrospective, non-randomised case series with analysis of 30 patients (mean age 8.4 ± 3.0 years) with mild to sight-threatening VKC treated with cyclosporine 0.1% eye drops.
- The mean treatment period during this study was 38.5 months.
- We classified the 30 patients into mild, moderate, severe and sight-threatening VKC using the Birmingham and Midland Eye Centre (BMEC) VKC grading guidelines (Figure 2).

RESULTS

Figure 1

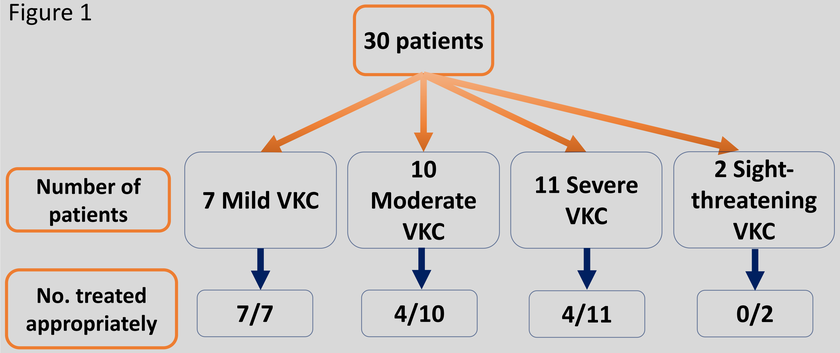


Figure 2

BMEC VKC grading guidelines

Mild	Hyperemia +, Micro-papillae, Cornea Clear, Limbus – NAD	g. Betamethasone x2/day g. Olopatadine or g. Ketotifen x2/day
Moderate	Hyperemia ++, Micro-papillae <1mm, Micro-erosions, <180 degree limbal inflammation	g. Betamethasone x2/day g. Cyclosporine 0.1% x2-3/day
Severe	H.T dots, Giant Papillae >1mm, Macro-erosions, >180 degree limbal inflammation	g. Dexamethasone 0.1% TDS g. Cyclosporine 0.1% x4/day
Sight-threatening	360 degree thickening, Cobblestones, Shield ulcer, Vascularization, Diffuse gelatinous infiltrates	g. Dexamethasone 0.1% 2-hourly g. Chloramphenicol 0.5% x2/day g. Cyclosporine 0.1% x4/day

RESULTS

- We found that 15/30 (50%) of patients with VKC were not treated appropriately according to the BMEC VKC management guidelines.
- In the severe group, all 11 patients were eventually started on CsA (after an average of 4.5 appointments or 15 months from presentation) and 10/11 (91%) of those eventually showed clinical improvement following commencement of CsA.
- 88% of patients who were eventually started on CsA therapy showed clinical improvement in their VKC.

CONCLUSION

- Our results highlight the wide variety in the management of VKC. This may be a result of a broad spectrum of the severity of VKC presenting to the eye services but also reflects that there is no standardized approach to treating the condition.
- We advocate initiating a potent and acute treatment with topical cyclosporin as maintenance for patients with moderate to severe VKC. This should reduce the incidents of flare-ups and the severity of sight threatening complications from flare-ups.

KEY POINTS

1. There is a wide spectrum of presenting severity in children with VKC.
2. A lack of set management guidelines means that there is also variety in the management of VKC. Our findings indicate that CsA was not started at the earliest opportunity.
3. We recommend effective treatment from the outset with steroids and long-term agents such as cyclosporine being utilised as a maintenance therapy.
4. The importance of low frequency drops but with high potency so its use is sustainable – more frequent drops mean less compliance.

Reference: 1. Kumar, S., 2009. Vernal keratoconjunctivitis: a major review. Acta Ophthalmol., Mar, 87(2), pp. 133-147.