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Acanthamoeba keratitis: Does the increased incidence in a regional eye unit reflect a national trend?

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Purpose of the Study: To report a series of cases of Acanthamoeba Keratitis (AK) in University Hospital Coventry & Warwickshire (UHCW), Coventry, UK and determine whether incidence is increasing across the UK and other developed countries.

Methods: We examined the incidence trends of AK (confirmed by microbiology) in one tertiary eye unit with an emergency eye service and compared this to the literature reflecting incidence in several hospitals across the UK, America, Australia and Canada.

Results: UHCW has shown a significant increase in new cases of AK over a 4-month time frame with over 12 confirmed cases presenting; a larger amount than found in any of the previous audits carried out in the region. Literature from Bristol and Manchester has found similar trends of increased incidence with flurries of cases across short periods. This is also reflected by a rise in the number of reported AK cases throughout the USA since 2004 and a recent outbreak in British Columbia. The incidence of AK is also increasing in parts of Australia including Brisbane however other areas of Australia such as Melbourne seem unaffected.

Conclusions: There is clearly a significant rise in the incidence of AK across developed countries. With such an abnormal increase in the number of cases within such a short time frame, it is important to document and highlight such events to search for any addressable cause. We hypothesize this rise is due to an increase in the usage of contact lenses across the population and associated improper maintenance. One contributing factor may be the growth of online purchase of lenses. This has limited the amount of teaching contact lens practitioners are able to give patients in the community. Suboptimal dosing of anti-amoebacides in lens solutions and the use of monthly/extended wear lenses also play a role.

Recent Publications

- 1. Chawla A, Armstrong M, Carly F (2014) Acanthamoeba keratitis an increasing incidence. Cont lens Anterior Eye. 37(2): 120-120.
- 2. Jasim H, Knox-Cartwright N, Cook S, Tole D (2012) Increase in Acanthamoeba keratitis may be associated with use of multipurpose contact lens solution. BMJ 344: e1246.
- 3. Fraser MN, Wong Q, Shah L, Holland SP, Morshed M, Isaac-Renton J, Chong M, Kibsey P, Patrick DM (2012) Characteristics of an acanthamoeba keratitis outbreak in British Columbia between 2003 and 2007. Ophthalmology. 119(6): 1120-5.
- 4. Ku J Y, Chan F M, Beckingsale P (2009) Acanthamoeba keratitis cluster: an increase in acanthamoeba keratitis in Australia. Clin Exp Ophthalmol. 37: 181-190
- 5. Lee M H, Abell R G, Mitra B, Ferdinands M, Vajpayee RB (2017) Risk factors, demographics and clinical profile of acanthamoeba keratitis in Melbourne: an 18-year retrospective study. Br J Ophthalmol. doi: 10.1136/ bjophthalmol-2017-310428.

Biography

Hassan F qualified Medicine from Brighton & Sussex Medical School and is a Junior Doctor working in University Hospital Coventry & Warwickshire. He has a specialist interest in Corneal Surgery and Paediatric Ophthalmology.

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