XLA and Recurrent Conjunctivitis; A Unique Association?

Background

- Previous study estimates that 21% of patients with XLA (X-Linked Agammaglobulinemia) have had at least one episode of conjunctivitis.¹

- A further review showed that immunoglobulin replacement therapy led to a reduction in all complications of XLA except conjunctivitis and sinusitis.²

- In our experience, though described, conjunctivitis is less common in patients with CVID (Common Variable Immunodeficiency).

Aims

- To determine whether there was an association between XLA and conjunctivitis and if this association was unique amongst primary antibody deficiencies.

Method

Retrospective observational study was carried out at two sites; The Regional Immunology Services of Northern Ireland and St. James’s Hospital, Dublin, Republic of Ireland.

- Local immunodeficiency registry databases were used to identify patients with XLA and CVID.

- Age-matched CVID patients with absent IgA levels were selected – to control for the possibility that IgA antibodies play a role in protection against conjunctivitis.

- All XLA and CVID patients were on immunoglobulin replacement therapy and IgG trough levels were compared.

- Patient electronic care records were used to assess burden of eye disease - documented episodes of conjunctivitis or other eye infection or ophthalmology review.

Results

- 29 patients with XLA and 30 patients with CVID with absent IgA were analysed.

- Mean age of the XLA group was 31 years (range 15-51 years) and the CVID group was 33 years (range 16-44 years).

- CVID group had 15 males (50%) and 15 females (50%).

- 12 out of the 29 patients with XLA (41%) had suffered from recurrent conjunctivitis (≥ 2 episodes).

- No patients in the CVID group had documented episodes of recurrent conjunctivitis or had attended an ophthalmologist

- Mean IgG trough levels were 10.7g/L (range 4.3-18.8) for the XLA group and 10.41g/L (range 3.1-15.6) for the CVID group.

Conclusion / Discussion

- Our study found 12 out of 29 (41%) of patients with XLA had recurrent conjunctivitis compared to zero patients in the CVID with absent IgA group.

- The increased susceptibility to conjunctivitis in patients with XLA was found not to be due to IgA deficiency or lower IgG trough levels or age.

- We demonstrate here the common and perhaps unique susceptibility to conjunctivitis in patients with XLA. Further research is needed to fully characterise this relationship and establish the underlying pathology.

References


² Redenbaugh V, Sloan A, Edgar J, Coulter T. Regional Immunology Service of Northern Ireland, St. James’s Hospital, Dublin