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Abstract

Infections in children with eczema in UK general practice- a cohort study

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Background

Case reports and cross-sectional studies suggest increased risks of cutaneous and non-cutaneous infections in eczema; this relationship needs to be assessed in large population-based studies with diagnostic confirmation. The objective was to examine associations between eczema and common childhood infections.

Methods

Individuals registered prior to age 18 in the Health Improvement Network, a UK general practice database, from 2003 to 2013 were included in this cohort study. We determined the association between eczema and selected infectious outcomes, including cutaneous (dermatophyte, herpes simplex virus, impetigo, molluscum contagiosum and warts), and non-cutaneous infections (otitis media, streptococcal throat infections, and pneumonia).

Results

Eczema was diagnosed in 14.4% (95% confidence interval 14.4, 14.4), and the average age of eczema diagnosis was 7.94 years (7.91, 7.98). All of the infectious illnesses were more prevalent in those with eczema compared to those without, with adjusted odds ratios (95% confidence intervals) as follows: dermatophyte 2.54 (2.47-2.61), herpes simplex virus, 2.08 (2.04-2.12), impetigo 2.61 (2.53-2.68), molluscum contagiosum 3.11 (3.07-3.14) and warts 1.98 (1.96-2.00). For non-cutaneous outcomes, the odds of otitis media, streptococcal throat infections and pneumonia were 2.24 (2.22-2.25), 1.75 (1.69-1.82) and 1.27 (1.23,1.31). Associations were attenuated in sensitivity analyses.

Conclusion

Selected infectious illnesses were more prevalent in those with eczema versus those without, with the strength of association varying from 75% increase in streptococcal throat infections to a three-fold increased prevalence for molluscum contagiosum. Findings suggest there may be generalized immune dysfunction in eczema predisposing to increased risk of various infections, which is important for clinical management.