Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

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Diabetes

Type 1 diabetes in children is on the increase

The incidence of childhood type 1 diabetes may double over the next two to three decades, findings from a multicentre European study suggest.

The researchers analysed data from the EURODIAB registry between 1989 and 2013. The study population comprised more than 84,000 children from 26 European centres, across 22 countries. Some countries have databases for the whole country, others have one or more nominated areas. The UK centres were Northern Ireland, Yorkshire and Oxford. The data were divided into five-year periods.

Registries list cases of diabetes diagnosed by a clinician and exclude cases that may be secondary to other causes, such as cystic fibrosis or high-dose corticosteroid therapy. The registry entries are carefully checked and reviewed. Most of the registries have been estimated to achieve well in excess of 90% for case capture.

Incidence rates were calculated by dividing the number of registered children by annual population estimates, with standard errors calculated for the estimates. For each five-year interval, the children were grouped by age i.e. up to four years, five to nine years and 10 to 14 years, and by sex.

Trends in annual incidence rates and comparisons between different countries were investigated over the 25-year period using Poisson regression.

Some high incidence countries including the UK, Norway and Finland, showed a reduction in the rate of increase. However, a pooled analysis across all centres revealed an increase in the incidence of type 1 diabetes of 3.4% (95% CI: 2.8-3.9%) per annum.

Rates of increase were similar in boys and girls in the under four age group (3.7% per annum for both sexes) and in the five to nine year age group (3.4% and 3.7% per annum respectively). However, in the 10 to 14 year age group the rates of annual increase were higher in boys than girls (3.3% vs 2.6%).

Much recent publicity has been given to the high levels of obesity in the UK and the parallel increasing incidence and prevalence of type 2 diabetes. Less discussed is the steadily rising incidence of type 1 diabetes, especially in children under five (where it is easily missed).

Significant four year periodicity was seen in four centres with the most recent peak in 2012 for three of these centres. The authors acknowledge that no explanation was available for the small number of centres showing cyclical incidence.

The study authors conclude: 'Taking into account the uncertainty associated with our overall incidence rate increase of 3.4%, we may expect to see a doubling in European incidence in between 18 and 25 years if the trends evident in the last 25 years are maintained.'

DR MATTHEW LOCKYER

Patterson CC, Harjutsalo V, Rosenbauer J et al. (2018). Trends and cyclical variation in the incidence of childhood type 1 diabetes in 26 European centres in the 25 year period 1989-2013: a multicentre prospective registration study. *Diabetologia* 2018 Nov 28. doi.org/10.1007/ s00125-018-4763-3 [Epub ahead of print]

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