PP-019 IRISH CHILDHOOD TYPE 1 DIABETES RATE OF INCIDENCE RISE 1997–2021

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Aim Prior to the work of the Irish Childhood Diabetes National Register (ICDNR) there were no reliable data regarding the incidence of Type 1 Diabetes (T1D) in Ireland (a basic WHO health indicator). Limited data suggested Ireland had the lowest incidence in Europe, at 6.8 cases/100,000/year. A 1997 feasibility national incidence study was undertaken prior to the commencement of the ICDNR in 2008. The ICDNR collaborates with EURODIAB. The aim of this study was to report the incidence rates and annual percentage change (APC) since first calculated in 1997 up to the most recent rates in 2021.

Material and Method The 1997 study and ICDNR employed the same methodology. All institutions responsible for the diagnosis and treatment of children with T1D under fifteen years nationally participate and prospectively reported all eligible new T1D cases. Following written informed consent, a detailed case report form was completed, and all cases verified. Following full registration capture-recapture methodology was applied collaborating with the Primary Care Reimbursement and Eligibility Service (PCRES). Standardised incidence rates (SIRs), using the direct method, were calculated to permit comparison internationally and over time. Population data derived from national census data from the Central Statistics Office was employed.

Results The baseline national study found the SIR for all children was 16.3 per 100,000/year, in the top 25% for Europe. In the 11-year period, to 2008, the incidence increased by 69.2% to 27.5/100,000/yr. The annual rate of change varied over the period (table 1).

Abstract PP-019 Table 1 Annual percentage change in standardised incidence rates by sex 1997–2021

Years	Males and Females Percentage (%)	Males (%)	Females (%)
1997 - 2008	+ 6.3	+ 7.1	+ 5.4
2008 - 2009	- 5.7	- 11.5	+ 0.9
2009 - 2010	- 1.5	+ 2.7	- 6.1
2010 - 2011	+ 11.7	- 1.1	+ 25.7
2011 - 2012	+ 0.3	+ 17.5	- 14.0
2012 - 2013	+ 0.6	- 5.3	+ 6.4
2013 - 2014	- 2.9	- 2.2	- 2.7
2014 - 2015	+ 5.4	+ 5.2	+ 5.8
2015 - 2016	+ 4.5	+ 11.3	- 3.2
2016 - 2017	- 12.4	- 10.2	- 15.2
2017 - 2018	+ 0.4	- 2.1	+ 3.6
2018 - 2019	+ 14.2	+ 7.3	+ 22.9
2019 - 2020	+ 4.3	+ 6.1	+ 2.3
2020 - 2021	+ 16.9	+ 15.7	+ 18.4

Conclusions The rate of change in the SIR stabilised, with minor fluctuations to 2018 after which it increased, again prior to and during the COVID-19 pandemic. This pattern is similar to other high incidence countries. In the periods of highest increase, the age category of diagnosis changed from 10–14 years to the younger 5–9.99 year age category, likely due to increased environmental pressure.

PP-020 THE EFFECT OF SUBSTITUTION OF VITAMIN D IN CHILDREN UNDER GROWTH HORMONE THERAPY – ABSOLUTE DEFICIENCY

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Aim Vitamin D and growth hormone (GH) are synergists in creating healthy, strong and adequately long bones. Vitamin D deficiency is present in up to 80% of children. To compare the average growth in body height in the first year of GH therapy in pediatric patients with GH deficiency without and with adequate vitamin D substitution.

Material and Method The diagnosis of absolute deficiency of GH was established by a stimulation test with insulin hypoglycemia with a cut-off value of 10 µg/L. In the first group, vitamin D was not administered or substituted before the start of GH therapy, and in the second vitamin D was determined by the immunoassay method of patients and substituted to reference values (>30 ng/ml) before the start of GH therapy.

Results The average dose of GH for both groups was 0.034 mg/kg/day. GH therapy was started immediately for 28 patients (15M/13F), the average increase in height after first year of therapy was 10.5 cm. In the second group of patients 31 (17M/14F), only 20% of the children had vitamin D in the reference range, and the mean was 14.9 ng/ml, after 2 months D vitamin it was substituted to mean of 39 ng/ml and GH was started. The average height increase in body height in the first year of therapy for this group was 11.9 cm ($p < 0.05$).

Conclusions Before the start of HR therapy, determining the level of vitamin D and substituting it in a short time to the reference values is important fot a significantly greater increase in body height in the first year of growth hormone therapy in patients with absolute deficiency and achieving better results of therapy in general.

PP-021 FACIAL ASYMMETRY AND A RARE DISEASE; MCCUNE-ALBRIGHT SYNDROME

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Aim McCune-Albright syndrome (MAS) is a rare genetic disorder associated with somatic mutations in the GNAS gene. These mutations affect G protein-coupled adenylate cyclase