New onset diabetes and DKA in children – a single centre study

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Objectives The incidence of new onset diabetes in children has increased since the first year of the COVID-19 pandemic. Our objectives were to investigate the incidence of new onset diabetes in children in the post pandemic era.

Methods Single centre study in a multi ethnic prevalent population of 425 children with diabetes.

Results We observed an unusual spike in new onset paediatric diabetes during the first COVID pandemic wave. 54 children presented with new onset diabetes in the first pandemic year (2020) compared to 40–45 in the pre-pandemic years. There have been further high incidence years since, with 53 children with new onset diabetes presenting in 2021 and 60 children in 2022. This is an increase of more than 10% compared to the estimated annual increase of 3–5% in the pre-pandemic era.

In 2023, the number of new onset diabetes returned to pre-pandemic levels (n=45). Seasonal variation of new onset diabetes with peak in winter and trough in summer was noted in this centre in 2023. This seasonal variation was lost in the COVID pandemic years.

90% of children at this centre present with Type 1 diabetes (T1DM). The median age was 10 years. The ethnicity of children presenting with new onset diabetes showed a shift in 2022. About 75% of children with T1DM presenting to this centre were White, however in 2022, 50% were Asian and African. The same pattern continued in 2023, 55% of children were White, 45% were from ethnic population.

The incidence of DKA in this centre was worryingly high (24/45 of children with new onset diabetes in 2023 presented in DKA, 9/45 presented with severe DKA)

Conclusions The incidence of new onset diabetes in this centre has returned to pre-pandemic levels. Year to year fluctuations occur with diabetes, we are therefore monitoring the trends. We are also monitoring the apparent increase in T1DM in children of ethnic minority. A service evaluation project of children presenting with new onset diabetes is being done to evaluate the clinician, patient and disease factors contributing to the high incidence of DKA in the centre.