

Did the COVID-19 Lockdown Affect the Incidence of Paediatric Type 1 Diabetes in Germany? Tittel SR, Rosenbauer J, Kamrath C, Ziegler J et al. DPV Initiative. Diabetes Care. 2020 Nov;43(11):e172-e173.

Background: Data on Paediatric new-onset Type 1 Diabetes Mellitus during the coronavirus disease (COVID-19) pandemic is limited. To date, all studies on the subject have been limited by small sample size and the fact that a diagnosis of COVID-19 could not always be confirmed.

Design: 216 German paediatric diabetes centres in the Diabetes-Prospective Follow-up registry (DPV); T1DM incidence predicted for 2020 based on data from 2011-2019

- 532 cases of paediatric newly diagnosed type 1 diabetes among age between 6 months and <18 years; between 13 March and 13 May in each year between 2011 and 2020, corresponding to lockdown period in Germany in 2020. Median age of cohort was 9.9 yrs. (interquartile range, 5.8-12.9 yrs; 61.5% male).
- Frequencies of diabetic ketoacidosis (DKA) observed during the COVID-19 period were compared with the same periods in 2018 and 2019

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



COVID-19 & Pediatric TYPE 1 Diabetes Mellitus

Results: Incidence of new-onset Type 1 Diabetes in Germany in 2020, based on 532 cases among 13.6 million subjects <18 years, was 23. [20.3-24.2] and did not differ significantly from the prediction 22.1 [20.4-23.9]

Clinical outcomes: Diabetic ketoacidosis present in 238 patients (44.7%) and severe DKA in 103 (19.4%).

During COVID-19 period in 2020, frequency of DKA was significantly higher compared with the 2 previous years (44.7% in 2020 vs 24.5% in 2019; aRR, 1.84 [95% CI, 1.54-2.21]; P <.001; vs 24.1% in 2018; aRR, 1.85 [95% CI, 1.54-2.24]; P<.001) Incidence of severe DKA was also significantly higher compared with the previous years (19.4% in 2020 vs 13.9% in 2019; P=.03; vs 12.3% in 2018; P=.004) Children younger than 6 years had the highest risk for DKA (51.9% in 2020 vs 18.4% in 2019) and severe DKA (24.4% in 2020 vs 12.2% in 2019; P=.02)

Conclusion: The type 1 diabetes incidence in 2020 follows the increasing trend observed between 2011 and 2019 without up- or downward deviation, indicating no short-term influence of the COVID-19 pandemic. This study found a significant increase in diabetic ketoacidosis and severe ketoacidosis at diabetes diagnosis in children and adolescents during the COVID-19 pandemic in Germany.

Key Message: COVID -19 pandemic may have delayed diagnosis of new onset T1DM leading to presentation with severe Diabetic Ketoacidosis. Further robust studies are required to establish a link between SARS-CoV-2 and new-onset type 1 diabetes mellitus in children.

EXPERT COMMENT



“There is no compelling evidence that the pandemic is leading to dramatic short-term adverse changes in the incidence of Paediatric T1DM. But COVID-19 pandemic might have altered T1DM presentation and Diabetic Ketoacidosis severity. The need of the hour is to conduct multinational, multicenter long-term follow-up studies to investigate possible associations between the COVID-19 pandemic and the incidence of type 1 diabetes in children”

Dr Abraham Paulose, MD, MRCPCH,
Post Doctoral Fellow Paediatric and Adolescent Endocrinologist,
Associate Professor, Department of Pediatrics, MOSC MCH, Kolenchery, Kerala, India.

DR MANINDER S DHALIWAL

Editor – Academic Pearls
pedpearls@gmail.com

DR BAKUL JAYANT PAREKH

National President 2020

DR G.V. BASAVARAJ

Hon. Secretary Gen. 2020-21

Reference

Tittel SR, Rosenbauer J, Kamrath C, Ziegler J et al; DPV Initiative. Did the COVID-19 Lockdown Affect the Incidence of Pediatric Type 1 Diabetes in Germany? Diabetes Care. 2020 Nov;43(11):e172-e173. doi: 10.2337/dc20-1633. Epub 2020 Aug 21. PMID: 32826282; PMCID: PMC7576433.