

Introduction

Since the start of the COVID-19 pandemic, data have become increasingly available regarding patients with chronic conditions and their risk for severe COVID-19 course. Specifically, diabetes and hyperglycemia have been known to be risk factors for severe COVID-19 course and/or death in adult patients.^{1,2,3} While the current data indicates that most illness in children remains mild and type 1 diabetes does not increase risk of severe COVID-19, studies in pediatric type 2 diabetes [T2D] are limited.

Study Aim

Our study aim was to describe the clinical characteristics of COVID-19 course in youth with T2D.

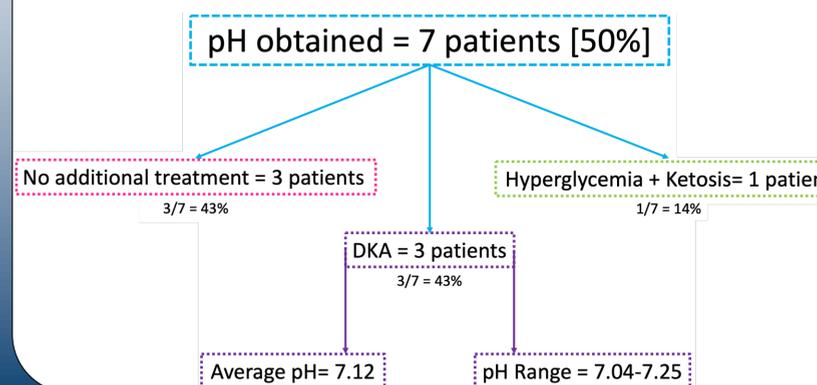
Methods

- Electronic health record [EHR] system was utilized to conduct a retrospective chart review of patients with a diagnosis of T2D and positive SARS-CoV-2 PCR testing performed at TCH between 3/1/2020 and 10/31/2020.
- Type of diabetes was determined by clinician classification.
- Demographic information, diabetes treatment regimen, metrics of glycemic control, and variables of COVID-19 course were recorded from EHR and analyzed.

Results

- **14** patients with active T2D and positive SARS-CoV-2 testing identified.
- 100% had **established diabetes**.
- **43%** [n=6] were **African-American**, **57%** [n=8] **Hispanic**. **None** were **Non-Hispanic Whites**.
- **100%** were obese; average BMI Z score was +2.22 [SD =0.48].
- **Median length** of all admissions was **1.5 days** [IQR = 1.23 days].
- 100% had **public medical insurance**.
- **Last hemoglobin A1C** <3 months prior to testing SARS-CoV-2+: Median=**13.2%** [IQR= 2.50%]. In 27% [n=3] patients' last A1C was >14.0%.
- **85.7%** [n=12] were **on insulin** and **36%** [n=5], on **Metformin**.
- **No** [0%] patients required **intubation** and **no patients expired**.

Figure #1: pH and DKA



Conclusions

- No patients had severe COVID-19 disease and no patients expired.
- 6 patients were hospitalized, 3 of which were for DKA with minimal/mild COVID-19 symptomatology.
- Median length of stay remained low at 1.5 days.
- In this limited sample, T2D in youth did not appear to be a risk factor for severe SARS-CoV-2 related illness.
- However, prevalence of DKA was higher than expected⁵, suggesting that COVID-19 may adversely affect diabetes course. This will require further investigation.

Bibliography

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2. Gubbi S. & Muniyappa R., American Journal of Physiology-Endocrinology and Metabolism 318:736-741, 2020.
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4. American Diabetes Association. Diabetes Care 43:163-182, 2020.
5. Sapru, et al. Journal of Pediatric Endocrinology and Metabolism 18[9]:865-872.