Clinical Management of ADHD in Pediatric Cystic Fibrosis Patients through the Lens of Triple Modulator Therapy Elexacaftor-Tezacaftor-Ivacaftor

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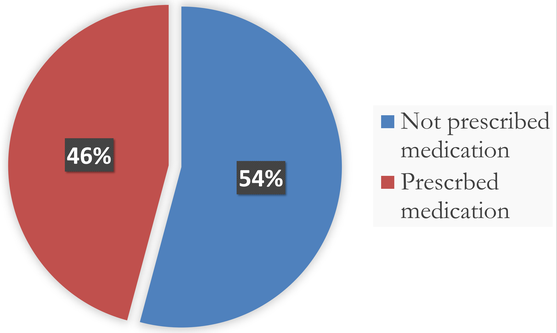
Background

- Pediatric patients with concurrent diagnoses of cystic fibrosis (CF) and attention deficit/hyperactivity disorder (ADHD) follow complex medical regimens, with variable treatment adherence.
- ADHD tends to impact executive functioning skills, which contribute to an individual's ability to organize and regulate behavior and emotions. As a result, patients may experience more difficulty managing their complex medical regimen
- Clinicians must balance ADHD psychopharmacologic treatments (i.e., psychostimulants) with CF clinical care guidelines that link respiratory health to body mass index (BMI) at the 50th percentile (Kaminski 2019; Murray 2022).
- Given effects of psychostimulants on growth, clinicians and families must decide how to treat both conditions effectively.
- Clinical management of comorbid ADHD and CF has become more complex with the introduction of the CF medication, elexacaftor-tezacaftor-ivacaftor (ETI). (Heo 2022)

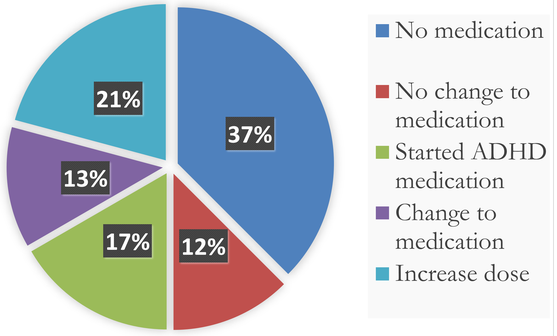
Methods

- This is an IRB-approved, observational study evaluating the effects of ETI on mental health symptoms of pediatric patients with CF in the first year of new CF treatment.
- All patients with CF that were started on ETI were offered enrollment, which is ongoing.
- As ETI serves as a life-saving treatment for most patients with CF, no control group was used for this study.
- Clinical data regarding CF symptoms, mental health diagnoses, use of psychiatric medication and changes in mental health symptoms were collected via chart review.
- Medication was not prescribed as part of this study.

Use of ADHD medications at baseline



Use of ADHD medication at 12 months



Awareness of ADHD diagnosis and familiarity with treatment options in pediatric patients with CF can be highly valuable to families as they decide how to balance the various treatment needs of ADHD and CF.

Results

- Of the potentially eligible participants, 24 pediatric patients (ages 6-20 years, 54% male) were identified with ADHD and CF diagnoses.
- ADHD typically was diagnosed by behavioral health providers or pediatricians, most several years before starting ETI.
- At baseline (initiation of ETI), the majority were not prescribed ADHD medications due to side effect risks.
- Four children initiated pharmacotherapy for ADHD after starting ETI, of which one had ADHD diagnosis prior to ETI and three were diagnosed after starting ETI. One parent of child diagnosed with ADHD post-ETI verbalized concern about coincidence of the appearance of ADHD symptoms within the same period as initiation of ETI.
- Of the patients prescribed medication, there was a broad range of stimulant and non-stimulant use.

Discussion

- This longitudinal study examined a subgroup of pediatric patients with CF diagnosed with ADHD before or soon after initiating ETI.
- The most notable changes were those who were diagnosed with ADHD after starting ETI due to parental suspicion of ETI acting as a trigger for the ADHD symptoms. In this individual's case, there is suspicion in the timing of ETI and appearance of ADHD symptoms, but this paper can only report correlation in timing of symptoms.

References

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