The impact of highly effective CFTR modulator therapy on utilization of antibiotics at a single pediatric cystic fibrosis care center

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Abstract

Objective: Describe antibiotic utilization pre- and post-widespread utilization of highly effective CFTR modulator therapy at a single pediatric CF center. **Design:** In October 2019, the United States Food and Drug Administration approved elexacaftor/tezacaftor/ivacaftor (ETI), a highly effective CFTR modulator therapy, for people with CF (pwCF). We performed a single-center, retrospective review of PO and IV antibiotics prescribed for pulmonary exacerbations (PEx) between 1/1/2017 and 12/31/2022. **Results:** Of the 193 pwCF included, 69 (36%) received a course of IV antibiotics in the pre-ETI period compared to 44 (23%) in the post-period. Oral antibiotic courses decreased from 174 (90%) to 141 (73%) individuals. The median combined IV and PO treatment courses per individual decreased from 3 to 2. The percent of individuals treated for resistant organisms including methicillin-resistant *Staphylococcus aureus* (46% to 32%) and *Pseudomonas aeruginosa* (40% to 28%) also decreased from the pre- and post-ETI period. **Conclusions:** This single center experience indicates a dramatic decrease in PO and IV antibiotics used to treat PEx among pwCF in the post-ETI period.

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`PEx Treatment Pre and Post ETI 11.13.2023.docx` available at https://authorea.com/users/403588/articles/687614-the-impact-of-highly-effective-cftr-modulator-therapy-on-utilization-of-antibiotics-at-a-single-pediatric-cystic-fibrosis-care-center