

Cystic Fibrosis Research News

Title:

Hyperbilirubinemia and Gilbert's syndrome in Cystic Fibrosis patients treated with elexacaftor/tezacaftor/ivacaftor

Lay Title:

Gilbert's syndrome post elexacaftor/tezacaftor/ivacaftor

Authors:

Terlizzi V^a, Timpano S^b, Salvi M^b, Tosco A^c, Castaldo A^d, Fevola C^a, Leonetti G^e, Vitullo P^f, Sepe A^c, Badolato R^b, Salvatore D^g

Affiliations:

^aDepartment of Paediatric Medicine, Meyer Children's Hospital IRCCS, Cystic Fibrosis Regional Reference Center, Florence, Italy.

^bCystic Fibrosis Regional Support Center, Department of Pediatrics, University of Brescia, ASST Spedali Civili Brescia, Brescia, Italy.

^cPaediatric Unit, Department of Maternal and Child health, Cystic Fibrosis Regional Reference Center, University of Naples Federico II, Naples, Italy.

^dPaediatric Unit, Department of Translational Medical Sciences, Cystic Fibrosis Regional Reference Center, University of Naples Federico II, Naples, Italy.

^eCystic Fibrosis Regional Reference Center, Azienda Universitaria Ospedaliera Consorziale Policlinico, Bari, Italy.

^fCystic Fibrosis Support Center, Ospedale G. Tatarella di Cerignola, Cerignola, Italy.

^gCystic Fibrosis Center, Hospital San Carlo, Potenza, Italy

What was your research question?

People with cystic fibrosis (CF) can simultaneously have Gilbert's syndrome. This is a benign genetic condition characterized by unconjugated hyperbilirubinemia without hepatocellular disease or haemolysis. Did people with Gilbert's syndrome have high levels of bilirubin when they took elexacaftor/tezacaftor/ivacaftor for CF?

Is it safe for people with Gilbert's syndrome to take elexacaftor/tezacaftor/ivacaftor (ETI) therapy if they have CF?

Why is this important?

Finding out if people with CF who are taking ETI and have high bilirubin levels also have Gilbert's Syndrome. This can help prevent unnecessary withdrawal of the medication. Gilbert's Syndrome is a common and harmless genetic liver condition that affects bilirubin processing. If people with CF with undiagnosed Gilbert's Syndrome and hyperbilirubinemia

Cystic Fibrosis Research News

cfresearchnews@gmail.com

Cystic Fibrosis Research News

are mistakenly assumed to have medication-related liver problems, they may stop taking the medication unnecessarily. By identifying Gilbert's Syndrome as the cause of the elevated bilirubin levels, healthcare providers can ensure that people with CF can safely continue taking ETI without interruption.

What did you do?

We conducted a study on 52 patients with CF (eight adults) who experienced high bilirubin levels after receiving ETI therapy. We wanted to see if these people had Gilbert's syndrome, a harmless liver condition. The results showed that the drug did not cause any liver damage, and none of the individuals had to stop taking the therapy. Additionally, we confirmed that Gilbert syndrome was often the cause of the elevated bilirubin levels in these people with CF.

What did you find?

We discovered that it is important to test for Gilbert's syndrome in people with CF who experience high bilirubin levels after receiving ETI therapy. The testing helps determine the cause of the hyperbilirubinemia. Furthermore, our findings showed that ETI is both safe and effective for people with CF who have Gilbert's syndrome alongside their condition.

What does this mean and reasons for caution?

Based on our study, it is generally safe to continue ETI therapy in people with CF who have Gilbert's syndrome. However, further research is necessary to confirm our findings and establish a definite cause-and-effect relationship. While our findings are promising, caution should be exercised in making broad conclusions until additional research with larger sample sizes can provide more robust evidence.

What's next?

To move forward, we need to conduct further long-term follow-up studies. This will help us establish a cause-and-effect relationship and gain a better understanding of the underlying mechanisms. It is important to continue investigating these aspects to enhance our knowledge in this area.

Original manuscript citation in PubMed

<https://pubmed.ncbi.nlm.nih.gov/37400299/>