Identification of pharmacological interactions between IVACAFTOR/TEZACAFTOR/ELEXACAFTOR and dietary supplements/herbs in patients with cystic fibrosis in an outpatient pharmaceutical care unit

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Background and importance

IVA, TEZ and ELX CYP3A4/5 substrates

TEZ and ELX P-glycoprotein substrates

Dietary supplements and/or herbs use in complex chronic patients: 60-85% (Spain, 2021)

It is essential to review possible drug interactions (DIs) between IVA/TEZ/ELX with drugs, dietary supplements or herbs

IVA: ivacaftor, TEZ: tezacaftor, ELX: elexacaftor

Aim and Objectives

Identification and evaluation of possible DIs between IVA/TEZ/ELX and dietary supplements and/or herbs in CF adult patients

Materials and Methods

Prospective interventional study conducted between December 2021 – March 2022

Inclusion criteria: CF adult patients who started IVA/TEZ/ELX.

Following Outpatient Pharmaceutical Care Unit protocol, a first structured pharmaceutical care (PC) visit was conducted at the start of IVA/TEZ/ELX to inform about dosage, administration, DIs, precautions, and adverse reactions.

Variables: biodemographic data, F508del mutation, previous CFTR* modulators, dietary supplements and/or herbs use.

* CFTR: cystic fibrosis transmembrane conductance regulator

Results

n = 104, 53 ♀ and 51 ♂

Median age 28,3 (21,9 – 36,7) years

Heterozygous F508del mutation: n = 65

Previous CFTR modulators

IVA: n = 1
IVA/TEZ: n = 48
IVA/TEZ/ELX: n = 13**

** Inclusion in clinical trial or managed access programs

Conclusions and Relevance

✔ Identification of possible DIs led to the withdrawal of the supplements and/or herbs in approximately one third of the patients.

✔ The review of concomitant treatments in the PC visit is essential to guarantee the effectiveness and safety of IVA/TEZ/ELX.

• Possible CYP3A4/5 DIs (Silybum marianum, Curcuma longa, Hypericum perforatum, Bacopa Monnieri, Ginkgo biloba, Citrus aurantium and Vaccinium) were identified in 5 patients ➔ withdrawal of all supplements/herbs

• In one patient, possible P-glycoprotein DI was detected (Boswellia serrata) ➔ removal of the supplement not necessary