Date of report 04 Jul 2024

Reported case interaction between **Efavirenz** and **Horsetail**

Drugs suspected to be involved in the DDI

Victim
Efavirenz

Daily Dose
600 (mg)

Dose adjustment performed
No

Administration Route
Oral

Start date
Jan. 1, 2007

End date
Ongoing

Perpetrator
Horsetail

Daily Dose
Unknown

Dose adjustment performed
No

Administration Route
Oral

Start date
Unknown

End date
Unknown

Complete list of drugs taken by the patient

Antiretroviral treatment

Lamivudine
Zidovudine
Efavirenz

Complete list of all comedications taken by the patient, included that involved in the DDI

Horsetail (Equisetum arvense)

Clinical case description

Gender

Female

Age

49

eGFR (mL/min)

>60

Liver function impairment

No

Description

A 49-year-old woman diagnosed with HIV in 2001 initiated antiretroviral therapy with zidovudine (ZDV), lamivudine (3TC), and nevirapine (NVP). In 2007, NVP was switched to efavirenz (EFV). Despite excellent adherence and sustained viral suppression, in 2013, she experienced two consecutive detectable viral loads (96 copies/mL and 57 copies/mL) over five months, while her CD4 count remained stable. Upon inquiry, she denied missed doses, immunizations, infectious diseases, and concomitant medications, but admitted to recently starting several herbal supplements. Specifically, she began taking daily horsetail (Equisetum arvense) supplements for its analgesic and anti-kidney stone effects two months before the first detectable viral load. Concerns regarding potential negative interactions between the herbal

supplement and antiretroviral drugs led to the cessation of horsetail use. Subsequent viral load testing, one month post-discontinuation, showed resuppression to less than 50 copies/mL, with all subsequent viral loads remaining undetectable. The patient did not resume horsetail supplementation.
Equisetum arvense, known as horsetail, is mainly used for its diuretic properties. Equisetum is also used as analgesic, hemostatic, astringent, and for treatment of digestive disorders and kidney/bladder stones. Equisetum contains flavonoids and phenols among compounds that could induce CYP450. Moreover, due to its diuretic properties, Equisetum arvense may increase renal excretion of other drugs.
This case was published by Cordova E et al. in J Int Assoc Provid AIDS Care 2017.

Clinical Outcome

Loss of efficacy

Drug Interaction Probability Scale (DIPS)

Score

3 - Possible

Editorial Comment

There are limited data about the pharmacological properties of Equisetum and its possible CYP450 metabolism. For these reasons, horsetail has been listed as an herb of undefined safety by the US Food and Drug Administration.

Equisetum contains flavonoids and phenols among compounds that could induce CYP450. Despite this, no studies have evaluated their role as potential CYP450 inducer. By contrary, a study found its role as a potential inhibitor of CYP1A2, CYP2D6, without significantly affecting CYP3A4.

University of Liverpool Recommendation

N/A

Personal information from the specialist

Name
Ezequiel

Surname
Cordova

Institution
Hospital Cosme Argerich

Country
AR