Direct Healthcare Professional Communication

January 2022

Tenofovir Alafenamide: Risk of Renal impairment including renal failure, proximal Renal tubulopathy and Fanconi Syndrome

Dear Healthcare Professional,

The General Administration for Pharmaceutical Vigilance of the Central Administration for Pharmaceutical Care at The Egyptian Drug Authority would like to inform you of the following:

Summary:

- Tenofovir causes Fanconi Syndrome, and that this may become more problematic with more widespread use of the drug.
- There is an increased risk of acute renal proximal tubulopathy in an HIV-infected patient treated with Tenofovir.
- The possibility of irreversible renal damage also suggests that patients given this drug should be followed more closely in the 12- to 18-month period after initiation of tenofovir therapy and should have a urinalysis, serum creatinine, and potassium performed on a regular basis following initiation of therapy.
- Raising the awareness of clinicians with regard to the potential for this side effect is important so that patients with this side effect can be discovered early and switched to an alternate antiretroviral therapy.

Background on the safety concern & recommendations for Health care professionals:

-Tenofovir alafenamide is a phosphonamidite prodrug of tenofovir (2'-deoxyadenosine monophosphate analogue). Tenofovir alafenamide enters primary hepatocytes by passive diffusion and by the hepatic uptake transporters OATP1B1 and OATP1B3. Tenofovir alafenamide is primarily hydrolyzed to form tenofovir by carboxylesterase 1 in primary hepatocytes. Intracellular tenofovir is subsequently phosphorylated to the pharmacologically active metabolite tenofovir diphosphate. Tenofovir diphosphate inhibits HBV replication through incorporation into viral DNA by the HBV reverse transcriptase, which results in DNA chain termination.

- Tenofovir has activity that is specific to hepatitis B virus and human immunodeficiency virus (HIV-1 and HIV-2). Tenofovir diphosphate is a weak inhibitor of mammalian DNA polymerase that include mitochondrial DNA polymerase ɤ and there is no evidence of mitochondrial toxicity in vitro based on several assays including mitochondrial DNA analyses.

- Many Case Reports have been received worldwide for TAF causing renal problems as renal failure, proximal Renal tubulopathy and Fanconi Syndrome.

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References

TGA: https://www.tga.gov.au/news/safety-updates/tenofovir-alafenamide-and-renal-adverse-effects

Call for reporting

Healthcare professionals are asked to report any suspected adverse reactions via the Egyptian reporting system:

Name: General Administration for Pharmaceutical Vigilance

Email: pv.followup@edaegypt.gov.eg

Online reporting: https://primaryreporting.who-umc.org/EG
QR Code:

Hotline: 15301

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