

Poster presentation

Tenofovir toxicity in children: two clinical cases

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Purpose of the Study

Tenofovir (TDF) is a nucleotide reverse-transcriptase inhibitor approved in 2001 for the treatment of HIV infection in adults. The benefits of TDF use in children has been described in reducing metabolic toxicity. However, the drug has been associated with renal toxicity and Fanconi syndrome in adults. We report two paediatric cases of reversible severe Fanconi syndrome in children.

Clinical cases

Case No. 1

Anas is a 12 year-old Libyan boy with nosocomial-acquired HIV infection in 1998. In February 2007 a first-line ART has been started with TDF/FTC and LPV/r (CD4 255/mm³ VL 1,398 cps/mL) with good response to treatment (CD4 35% 461/mm³, viral load <400 cps/mL at 6 months). After 12 months he presented leg pain, proximal muscles weakness, paresthesia, and waddling gait. The investigations done showed a hypophosphatemia (1.2 mg/dL) and an increased level of alkaline phosphatase (1,879 UI/mL). Wrist X-ray was showing rickets and osteopenia. TDF has been shifted to ABC and high phosphate diet has been started. Six weeks later the child showed dramatic clinical improvement, with reduction of the pain and normalization of the gait. Phosphate levels raised to normal values (3.6 mg/mL).

Case No. 2

Abdalla is a 10 year-old Libyan boy, diagnosed HIV infected in December 2002 with severe immunodepression (CD4 1% 7/mm³ and VL >500,000 cp/mL). A first-line regimen with AZT-3TC-NFV was started with viro-

immunological improvement, and stopped in December 2005 because of virological failure due to low adherence. In September 2006 (CD4 0%) he started ARV with ABC-TDF-LPV/r with a good response (VL <400 cps/mL CD4% 8% at 6 months). After 18 months on ART he presented generalized weakness, pain in lower limbs and abnormal gait. The tests performed showed an hypophosphatemia (1.1 mg/dL) and an increased level of alkaline phosphatase. The wrist X-ray was showing ricketic changes and osteopenia. The suspension of TDF determined an improvement of general conditions and normalizations of laboratory results.

Conclusion

TDF-related tubular damage is well described in adults and few cases have been described in children. Despite the benefits of this drug, after initiation of TDF a vigilant screening of renal function should be recommended especially in pre-pubertal children.