



IS HYPOPHOSPHATEMIA A REAL CONTRAINDICATION FOR PrEP? LET'S ASK THE RENAL TUBULE

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Background

Oral Pre-exposure prophylaxis (PrEP) with antiretroviral drugs has been recommended for HIV infection prevention among individuals at high risk of acquiring HIV. In Italy, the use of a fixed dose combination of tenofovir disoproxil fumarate/emtricitabine (TDF/FTC) is the only drug authorized for non-reimbursed PrEP since 2017. Renal function impairment with eGFR < 60 ml/min, proteinuria and mild-severe hypophosphatemia (P<2 mg/dL) are considered contraindications to PrEP due to its potential nephrotoxicity. [1, 2]

Patients and Methods

We present a case of a healthy 36 year-old man interested in PrEP with a mild-severe hypophosphatemia (P 1,4 mg/dL). We performed a metabolic and tubular study to assess the underlying condition and consequently if it would represent a real contraindication for PrEP. After PrEP start, we closely monitored renal function every 4 weeks in the first 2 months, then every 3 months.

Results

A 36-year old man, MSM, with a past history of kidney stones and an actual stone free status came to our Infectious Diseases Outpatient Clinic to start PrEP. Before PrEP start, he underwent laboratory test that showed a previous unacknowledged hypophosphatemia (1,4 mg/dL) with a normal renal function with serum creatinine 0,90 mg/dL, eGFR (CKD-EPI) 110 ml/min and normal urinalysis. After a nephrology consultation, a second level laboratory analysis with 24-hour urine collection was performed showing an increased fractional excretion of phosphate (FeP) 23,2 % (normal values 10-20%), no other signs of proximal tubulopathy, glomerular hyperfiltration with increased creatinine clearance (140 ml/min); moreover we found neither proteinuria nor albuminuria, normal values of parathyroid hormone, vitamin D, magnesium, slight hyperuricemia (7,6 mg/dL) with normal fractional excretion. Since no signs of tubulopathy was found except for the increase of FeP that was slight, no nephrological contraindication was present. The patient also underwent a diet consulting: a normocaloric, normoproteic diet was started with higher phosphorus intake. PrEP was finally started: on demand for the first month and then daily. During follow-up period (9 months), the patient underwent 4 testing, which showed an unexpected increase in P levels (2,4 mg/dL) with a normalization of FeP (19,6%).

Conclusions

Hypophosphatemia per se should not constitute a contraindication for PrEP: tubular function tests are recommended to assess a complete renal function evaluation before PrEP start. Infectious disease specialists and nephrologists should collaborate to ensure safe care of people interested in PrEP and may lead to a potential increase of PrEP use.

References

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