Osteoporosis Following Antiretroviral Therapy in an HIV Positive Male Patient: A Case Report

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Abstract
Introduction: Osteoporosis frequency in HIV-positive patients receiving antiretroviral therapy (ART) is three times higher compared to HIV-negative patients. At bone mineral density during the first 2 years with ART onset, a reduction of 2% to 6% is shown. In this case, we presented osteoporosis following ART HIV-positive young male patient without additional risk factor.

Case Presentation: A 35-year-old male with a history of heterosexual risky sexual intercourse, identified as HIV-positive in 2009 was started tenofovir/emtricitabine and lopinavir/ritonavir treatment. He applied to the clinic with blunt pain of waist, hip and both feet. There was no additional feature other than a low-energy right hand fifth metacarpal bone fracture history. At the time of admission calcium: 8.9 mg/dL, phosphorus: 1.3 mg/dL, 24 hour urinary calcium level: 728 mg/day, 24 hour urinary phosphorus level: 26 mg/day, vitamin D: 44.5 ng/ml, ALP: 270 ul, PTH: 53 pg/ml, DXA: femur neck T score: -2.7, Z Score: -2.3, L1-L4 T score: -4.5, Z score: -4.5 (Figure 1). Thoracolumbar graphy was consistent with osteoporotic view. There was no apparent compression fracture (Figure 2). The patient was treated with alendronate sodium 70 mg/week, calcium 1000 mg + 880 IU vitamin d3, sodium phosphate. Tenofovir/emtricitabine and lopinavir/ritonavir treatment was discontinued and abacavir/dolutegravir/lamivudine therapy was started.

Conclusion: HIV infection and ART are important in the development of osteoporosis. Especially tenofovir causes kidney failure or tubulary dysfunction. If hypophosphotemia depending on tenofovir is present. ART regime change should be considered, phosphorus deficiency treatment should also be applied to the patient along with osteoporosis treatment. Biphosphonate, vitamin D, calcium, and phosphorus treatment are potent in the treatment of osteopenia/osteoporosis associated with HIV infection.