Osteoporosis among older persons living with HIV in Kenya: baseline results from the BFTAF elderly switch study

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BACKGROUND

• Osteoporosis is becoming increasingly common among the aging population of people living with HIV (PLHIV).
• PLHIV share the same traditional risk factors for osteoporosis as people without HIV in addition to HIV-specific risk factors.
• HIV and ARVs are associated with a deterioration in bone quality and ART initiation is associated with a transient acceleration in bone loss.
• Specific ARVs, particularly boosted protease inhibitors and tenofovir disoproxil fumarate (TDF), are associated with greater reduction in bone mineral density (BMD) than other ARVs.
• There is a paucity of data on osteoporosis among elderly PLHIV in sub-Saharan Africa.

METHODS

• The BFTAF Elderly Switch Study is an open-label, randomized, active-controlled, non-inferiority trial conducted at two sites in Kenya.
• It aims to evaluate the efficacy and impact on BMD of a switch strategy from current ARV regimen to BFTAF in virally suppressed HIV-1 positive elderly adults (≥60 years old) without prior virologic failure.
• The study has two primary objectives: to evaluate the non-inferiority of switching to BFTAF as compared to maintaining the current regimen and to evaluate the change in BMD by study arm at 48 weeks.

RESULTS

• Between February and May 2022, 520 enrolled in the main study.
• Of these, 296 (56.9%) were screened for additional entry into the BMD monitoring population.
• All 296 were enrolled; no participant was excluded due to the BMD monitoring eligibility criteria.
• Screening for the BMD monitoring population stopped once the sample size was achieved.
• All 296 underwent DXA at enrollment and are included in this analysis.

RESULTS continued...

Baseline Characteristics

• All participants were black African, 147 (49.7%) were female, median age was 64 years (range 60 to 77) and 280 (94.6%) were on tenofovir disoproxil fumarate (TDF)-containing regimens.

BMD Findings

• Median BMD of the lumbar spine and total hip were 0.88 g/cm2 (IQR 0.78 to 1.00) and 0.88 g/cm2 (IQR 0.80 to 0.99), respectively, with median T-scores of -2.7 (IQR -3.5 to -1.6) and -1.3 (IQR -1.9 to -0.7), respectively.
• Osteoporosis and osteopenia were found in 60.5% and 29.1% of participants, respectively.
• Using FRAX score alone (without BMD results) only identified 7 (2.4%) participants who qualified for treatment of osteoporosis.

CONCLUSION

• The prevalence of osteoporosis among elderly PLHIV in Kenya is high.
• DXA is not readily available in Kenya, and risk calculation without BMD did not identify the majority of participants who qualify for treatment of osteoporosis.
• Additional data for this population is required on:
  • Subclinical fractures.
  • Optimal ARV selection particularly in populations with widespread use of TDF.
  • The impact of intervention in osteoporosis screening and treatment, including population-specific risk calculators.

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