|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Incident Fractures per SD Lower Hip BMD** | | | | | |
|  | **Unadjusted** | **Age, gender, race, and site adjusted** | | **Fully adjusted\*\*** | **P-interaction** | |
|  | **HR (95% CI)** | **HR (95% CI)** | | **HR (95% CI)** |  | |
| **FGF-23** |  |  | |  | 0.083 | |
| **<55** | 2.42 (1.84, 3.19) | 2.46 (1.78, 3.38) | | 3.91 (2.51, 6.07) |  | |
| **≥55** | 1.74 (1.34, 2.26) | 1.75 (1.29, 2.36) | | 2.27 (1.55, 3.33) |  | |
| **α-klotho** |  |  | |  | 0.776 | |
| **<588** | 2.04 (1.54, 2.71) | 1.93 (1.39, 2.68) | | 2.24 (1.51, 3.31) |  | |
| **≥588** | 1.94 (1.51, 2.50) | 2.03 (1.51, 2.73) | | 3.09 (2.13, 4.46) |  | |
| **PTH** |  |  | |  | 0.267 | |
| **<39** | 2.20 (1.71, 2.89) | 2.23 (1.66, 3.00) | | 3.09 (2.11, 4.52) |  | |
| **≥39** | 1.75 (1.34, 2.29) | 1.66 (1.21, 2.28) | | 1.98 (1.33, 2.95) |  | |
|  |  |  | |  |  | |
|  | **Incident Fractures per SD Lower Spine BMD** | | | | | | | |
|  | **Unadjusted** | **Age, gender, race, and site adjusted** | **Fully adjusted\*\*** | | | **P-interaction** | | |
|  | **HR (95% CI)** | **HR (95% CI)** | **HR (95% CI)** | | |  | | |
| **FGF-23** |  |  |  | | | 0.458 | | |
| **<55** | 1.82 (1.35, 2.45) | 1.67 (1.20, 2.34) | 1.78 (1.23, 2.59) | | |  | | |
| **≥55** | 1.57 (1.24, 2.00) | 1.40 (1.07, 1.84) | 1.50 (1.11, 2.02) | | |  | | |
| **α-klotho** |  |  |  | | | 0.586 | | |
| **<588** | 1.73 (1.31, 2.28) | 1.51 (1.11, 2.05) | 1.54 (1.10, 2.15) | | |  | | |
| **≥588** | 1.57 (1.21, 2.02) | 1.50 (1.12, 2.01) | 1.77 (1.27, 2.46) | | |  | | |
| **PTH** |  |  |  | | | 0.230 | | |
| **<39** | 1.84 ( 1.41, 2.41) | 1.74 (1.31, 2.32) | 1.94 (1.42, 2.65) | | |  | | |
| **≥39** | 1.46 (1.12, 1.91) | 1.19 (0.88, 1.62) | 1.19 (0.83, 1.71) | | |  | | |
| \*\*Fully adjusted for age, gender, race, site, BMI, SBP, HTN meds, eGFR, UACR, vitD25(OH)2, smoking status, alcohol use, diabetes, physical activity, osteoporosis meds, and diuretics | | | | | | | |

**Supplemental Table 1. Association between BMD and incident fractures stratified by individual serum biomarkers for low bone turnover versus non-low bone turnover in Health ABC**