Effects of Denosumab on Bone Mineral Density (BMD) and Bone Resorption Marker in Men With Low BMD Compared With Men With Prostate Cancer Receiving Androgen Deprivation Therapy and Women with Postmenopausal Osteoporosis (PMO)

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Purpose: Denosumab (DMAb) is a fully human monoclonal antibody against RANKL that decreases osteoclast formation, function, and survival. DMAb 60mg every 6 months (Q6M) has been shown to reduce bone turnover, increase BMD, and decrease risk for fractures in women with PMO (FREEDOM1) and men with prostate cancer on hormone ablation therapy with low bone bone mass or a history of fragility fracture (HALT2). The efficacy and safety of DMAb in men with low BMD (ADAMO) has been shown through 12 months of treatment. The current analysis was conducted to evaluate the consistency of the effects of DMAb across these 3 populations with different etiologies for bone loss.

Methods: Baseline lumbar spine (LS) BMD T-scores and sCTX values are presented in the Table. While the mean baseline LS BMD T-scores for ADAMO were higher than that in FREEDOM but generally lower than that in HALT, the range of baseline LS BMD T-scores across all subjects showed considerable overlap among all 3 studies. Compared with baseline, men treated with DMAb in ADAMO showed gains in LS BMD of 5.7% compared to 4.3% and 5.5% to subjects in HALT and FREEDOM, respectively, and each were significantly greater than placebo (p<0.0001) (Figure). DMAb treatment reduced median sCTX levels by 81% from baseline at day 15 in ADAMO compared to 90% at month 1 in both HALT and FREEDOM, respectively. The safety profile observed in ADAMO at 12 months was consistent with that observed in the first 12 months of HALT and FREEDOM.

Conclusions: The magnitude of LS BMD increase at 12 months demonstrated the consistency of effects of DMAb across these 3 patient populations. HALT and FREEDOM demonstrated that increases in BMD with DMAb 60mg Q6M were associated with decreases in the risk of fracture, suggesting that the BMD increases observed in ADAMO are clinically meaningful. No new safety risks associated with DMAb treatment were identified in the ADAMO study compared with HALT and FREEDOM.

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Disclosures:
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