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| Paper Category: | 12. Intervention Studies/Drug Treatment |
| Paper Title: (Arial Font; 14 Pt Size) | Active vitamin D treatment and prevention of sarcopenia in adults with prediabetes |
| Abstract Body: (Arial Font; 12Pt Size) | <ul style="list-style-type: none"> • Background • Objectives • Method • Results • Discussions and Conclusions |
| <p>(Maximum word limit - 300 words)</p> <p>BACKGROUND</p> <p>Observational studies show inverse associations between serum vitamin D levels and sarcopenia incidence; however, it remains unclear whether treatment with vitamin D prevents its development.</p> <p>OBJECTIVES</p> <p>To assess whether eldecacitol, an active vitamin D analog, can reduce the development of sarcopenia among adults with prediabetes.</p> <p>METHOD</p> <p>This is a double-blinded, multicenter, randomized, placebo-controlled trial. Participants aged 50 years and older who had prediabetes without sarcopenia which was defined by using handgrip strength and bio-impedance analysis were randomly assigned to receive eldecacitol 0.75µg per day or matching placebo for three years. The primary endpoint was sarcopenia incidence. The secondary endpoints were the incidence of falls and changes in skeletal muscle volume, strength, and body fat mass.</p> <p>RESULTS</p> <p>A total of 1,094 participants (44.2% women with a mean age of 60.8 years) were followed up for a median of 2.9 years. Eldecacitol treatment showed a significant preventive effect on sarcopenia incidence compared with placebo (25 [4.6%] of 548 participants in the eldecacitol group and 48 [8.8%] of 546 in the placebo group; hazard ratio [HR], 0.51; 95% confidence interval [CI], 0.31 to 0.83; P=0.007). Eldecacitol treatment also showed a significant risk reduction of falls compared with placebo (which occurred in 135 [24.6%] in the eldecacitol group and 179 [32.8%] in the placebo group; HR, 0.78; 95% CI, 0.62 to 0.97; P=0.026). In addition, treatment of eldecacitol as compared with placebo did show significant</p> | |

increases in appendicular skeletal muscle volume (0.45% vs. -1.72%; $P<0.001$), handgrip strength (1.85% vs. 0.45%; $P<0.001$), and decreases in body fat mass (-0.15% vs. 0.31%; $P=0.028$). There were no substantial adverse event differences between groups.

DISCUSSIONS and CONCLUSIONS

Treatment with eldecalcitol significantly reduced the incidence of sarcopenia among people with prediabetes via increasing skeletal muscle volume and strength. That might lead to a significant risk reduction of falls.

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