Testosterone supplementation and body composition: results from a meta-analysis of randomized controlled trials.

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Objective. The role of testosterone (T) in regulating body composition is conflicting. The aim of present study is too meta-analyze the effects of T supplementation (TS) on body composition and metabolic outcomes

Methods. All randomized controlled trials (RCTs) comparing the effect of TS on different endpoints were considered. Overall, 59 trials were included in the study enrolling 3029 and 2049 patients in TS and control groups, respectively. Mean trial duration was 8.7 months. The mean age, baseline T and body mass index of enrolled patients were 62.0 years, 11.6 nmoles/L and 28.6 kg/m² respectively.

Conclusions. Our data suggest that TS is able to improve body composition and glycometabolic profile particularly in younger subjects and in those with metabolic disturbances. Specifically designed studies are urgently needed to confirm this point.

Results

Overall, 59 trials were included in the study enrolling 3029 and 2049 patients in TS and control groups, respectively. Mean trial duration was 8.7 months. The mean age, baseline T and body mass index of enrolled patients were 62.0 years, 11.6 nmoles/L and 28.6 kg/m² respectively.

Trial flow diagram

Weighted mean differences (with 95%CI) of different parameters at end point

End-point testosterone level modification adjusted relationship between TS-induced glycol-metabolic improvement and body composition changes

Conclusions. Our data suggest that TS is able to improve body composition and glycometabolic profile particularly in younger subjects and in those with metabolic disturbances. Specifically designed studies are urgently needed to confirm this point.