

Testosterone Replacement in Men with Hypogonadism and Effects on Anemia— Blood, Sex, and Aging



Background

Lower testosterone levels are a common occurrence among middle-aged or older men. According to the Massachusetts Male Aging Study (MMAS), the estimated prevalence of low testosterone levels is 25.3% for men between the ages of 40 and 70. Hypogonadism, which refers to low testosterone levels in conjunction with specific symptomatic criteria, has a lower prevalence of 6 to 12% within this same study. Symptoms of hypogonadism include reduced libido, erectile dysfunction, fatigue, reduced muscle mass, poor concentration, and even poor sleeping habits. When considering other conditions in older adult males, anemia of aging is another common example. Anemia of aging is a type of normocytic anemia with an estimated prevalence of 15%. Although these conditions may appear unrelated, in 10 to 15% of men with anemia of aging, low testosterone levels are also present. Although there are limited guidelines present regarding the treatment of anemia of aging, testosterone replacement therapy (TRT) has emerged as a potential solution. In fact, the 2018 Endocrine Society guidelines suggest that TRT be considered in older men with low testosterone and unexplained anemia on an individual basis, after careful discussion of risks and benefits. To determine if testosterone replacement therapy (TRT) may provide benefits regarding anemia prevention in middle aged to older men with hypogonadism, the TRAVERSE trial was conducted.

Findings

Ultimately, this nested study within a larger randomized clinical trial found several unique trends. First, on average, 10 to 15% more men receiving TRT had a correction of their anemia when compared to placebo. Additionally, significantly fewer men (2 to 3%) receiving TRT without anemia at baseline developed anemia compared to men with placebo. However, the mean differences in hemoglobin levels themselves were small at 0.3 g/dL. When looking at patient reported outcomes, effects of TRT on energy and fatigue were modest, but there was no substantial effect on self-reported cognition. Overall, these findings highlight that while TRT can be safe and useful for improving energy in males with hypogonadism, it is likely unnecessary for men with asymptomatic anemia. If men do have symptomatic hypogonadism, TRT still presents as a possible treatment option if proper monitoring is maintained and risks and benefits are considered.

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