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Article in Press

Systematic Review of the Impact of Testosterone Replacement Therapy on Depression in Patients with Late-onset Testosterone Deficiency

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Genomic Characterization of Testicular Germ Cell Tumors Relapsing After Chemotherapy
Necchi, Andrea et al.

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Abstract

Context

Clinical guidelines recommend testosterone replacement therapy (TRT) for adult men with late-onset testosterone deficiency (TD), with the goal of improving symptoms and elevating testosterone levels into the normal reference range.

Objective

To investigate and critically analyze the current evidence regarding the impact of TRT on depression and depressive symptoms in adult men with late-onset TD compared with placebo.

Evidence acquisition

A systematic search of EMBASE, MEDLINE, Cochrane Central Register of Controlled Trials databases, and clinicaltrials.gov was performed on April 1, 2018 using any combination of the terms Testosterone (EXP) OR Testosterone replacement therapy (EXP) AND Depression (EXP) OR Depressive symptoms (EXP). Studies were considered eligible if they included adult men with late-onset TD (total testosterone <350 ng/ml and age >30 yr.) treated with TRT, used placebo groups comparison arm, were randomized clinical trials (RCTs), included at least 10 individuals per treatment arm, and assessed the impact of TRT on depression compared with that of placebo.

Evidence synthesis

Fifteen studies encompassing 1586 individuals were included. Six RCTs investigated the impact of TRT on patients with late-onset TD compared with placebo in patients with clinically significant levels of depression, and nine RCTs investigated the impact of TRT on patients with late-onset TD compared with placebo in patients with no clinically significant depression.

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Conclusions

TRT reduces depressive symptoms, according to data coming from small-sized, placebo-controlled RCTs of patients with pretreatment clinical mild depression. This impact was not noticed in men with major depressive disorders. In patients without pretreatment depression, TRT leads to a reduction of scores for depressive symptoms; however, clinical value of this is difficult to measure.

Patient summary

We investigated the effect of testosterone replacement therapy (TRT) on depressive symptoms in patients with late-onset testosterone deficiency. TRT improves depressive symptoms in most trials, except in patients with major depressive disorder.

Keywords:

[Testosterone replacement therapy](#), [Depression](#), [Testosterone deficiency](#), [Hypogonadism](#)

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