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Testosterone therapy reduces heart attack and stroke

Supplementing testosterone significantly reduces heart attacks and strokes in men with unnaturally low levels of the hormone, according to new research presented at the European Association of Urology congress today.

The ten-year study involved over 800 men from Germany and Qatar with testosterone deficiency, whose family history, blood pressure, cholesterol levels, diabetes or weight put them at high risk of heart attack or stroke.

Only men with testosterone levels below normal, who also displayed symptoms of low testosterone, such as low mood, decreased appetite, depression, erectile dysfunction, loss of libido or weight gain, were included in the research.

Just over half of the men opted for long-term testosterone replacement therapy, enabling the researchers to compare this group to those whose condition was left untreated. All the men were encouraged to make lifestyle changes, in terms of diet, alcohol, smoking and exercise, to improve their cardiovascular health.

Of 412 men on testosterone therapy, 16 died and none suffered a heart attack or stroke. Of the 393 men who chose not to take testosterone supplements, 74 died, 70 had a heart attack and 59 suffered a stroke. Even when discrepancy in age was taken into account – the group taking testosterone was on average five years younger than the other group – these differences remained clear cut. For the men under 55, the risk of heart attack and stroke was reduced by 25 percent; for men over 60, the risk was reduced by 15 percent.

The health of the men on testosterone therapy also improved by other measures. They lost weight, had more lean muscle mass, their cholesterol level and liver function improved, their diabetes was better controlled and their blood pressure dropped.

Professor Omar Aboumarzouk, from the Hamad Medical Corporation in Qatar, explains: “Given that all these men would normally have been expected to suffer a heart attack or stroke in the next five to ten years, with no other intervention, it was a real surprise to see no cardiovascular events at all in the group on testosterone therapy. It’s clear that this treatment can significantly reduce the risks in this particular group.”

However, the team are keen to stress that testosterone therapy is not a silver bullet and should only be considered for patients who meet certain criteria.

“Testosterone can be seriously harmful if taken by men with normal levels, or who function perfectly well with reduced levels of the hormone,” says Professor Aboumarzouk. “While men need testosterone for certain psychological and biological functions, only those with low levels who display other symptoms are likely to benefit from testosterone therapy.

“For those at high risk of heart attack and stroke, who are deficient in testosterone, it’s likely that bringing the hormone back to normal levels helps them to maximise the benefits of other steps necessary to improve their overall health. This includes increasing exercise levels, eating healthier food, giving up smoking and reducing alcohol consumption.

“We believe that physicians treating patients with low testosterone, who are at high risk of heart attack or stroke, should consider testosterone therapy as one aspect of their treatment.”

The study, which involved researchers from Dresden, Bremen and Muenster in Germany and Doha in Qatar, is still continuing.

Dr Maarten Albersen, Member of the EAU Scientific Office, from Leuven University in Belgium says: “The long-term cardiovascular risks or benefits of testosterone therapy are still unclear, because of conflicting results from previous research. This new study has shown a reduction in major cardiovascular events and mortality in men who received testosterone therapy, compared to men who opted not to receive this treatment.

However, these were men with a medium risk of heart attack or stroke, and those receiving testosterone were younger and had a slightly lower risk at the start of the study. The study was long enough to see differences in the rate of cardiovascular events. However, the numbers involved and the fact that the trial was not randomised mean it’s still difficult to draw any hard conclusions. A new trial is now underway, aiming to recruit 6000 participants, and this should provide definitive answers on the cardiovascular risks or even benefits of hormone therapy in men with low testosterone.”

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The researchers leading the study are:

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- Prof. Dr. Farid Saad, Dresden International University, Program of Preventive Medicine, Dresden, Germany
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About EAU21

Europe’s biggest urology congress will take place from 9th-12th July 2021 in a virtual setting. With over 1,500 abstracts presented and moderated live, the [Annual Congress of the European Association of Urology](#) (EAU21) will be amongst Europe’s biggest medical congresses in 2021.

Clinicians, scientists, and patients will meet to discuss topics such as:

- Prostate cancer: new developments to improve treatments of the most common male cancer
- Urinary incontinence: a growing concern for the elderly population
- Practice changing treatments for both bladder and kidney cancer

- Prevention and treatment of urinary stones; 1 in 10 people (55 million adults in Europe) will form a stone at some point
- Special track for representatives of patient advocacy group on Friday 9 July

...and many other conditions related to the male and female urinary tract system and male reproductive organs. Review the full scientific programme on the [congress website](#).