



Testosterone Therapy Lowers Risk of CVD



A new study conducted with more than 83,000 patients reports that men whose low testosterone levels were restored to normal through gels, patches, or injections have a lower risk of heart attack, stroke, or death from any cause as compared to men who remain untreated. The study is published in the *European Heart Journal*.

The findings also show that men who were treated but did not attain normal testosterone levels did not derive the same benefits as compared to men whose normal levels were restored.

These new findings can help settle the ongoing debate over the benefits and risks of testosterone therapy, especially for the heart. Previous studies have yielded mixed results but this may be due to different patient populations and research methods. Thus, there is a lack of any definitive clinical trial that would provide clear guidance to the medical community. The FDA has also issued guidelines earlier this year advising against the over-use of testosterone therapy and indicating that it may increase the risk of heart attack or stroke.

This new study included 83,000 men with documented low testosterone, all age 50 or above and who had received care between 1999 and 2014. Men with a history of heart attacks or strokes were excluded but those with existing heart disease were included. The study is different because of its large size and long follow-up period.

Study participants were divided into three clinical groups. Group 1 comprised of those treated to the point where their testosterone levels returned to normal; Group 2 included those who were treated but whose normal levels were not restored; and Group 3 who were untreated and whose testosterone levels remained low. The three groups were also matched in terms of their health profiles and factors such as age, body mass index, various chronic diseases, LDL cholesterol levels, and the use of aspirin, beta blockers, and statins were considered.

The findings show that men treated with testosterone therapy (Group 1) were 56 percent less likely to die during the follow-up period, 24 percent less likely to suffer a heart attack and 36 percent less likely to have a stroke as compared to men with low testosterone levels who went untreated (Group 3). Differences between Group 1 and Group 2 were similar but less pronounced. Very little difference was observed between Groups 2 and 3.

Dr. Rajat Barua, the paper's corresponding author, is of the opinion that this study is especially noteworthy because of its finding that administering the right dose is critical. If low testosterone levels are treated but normal levels are not restored, no benefits will be derived from this treatment in terms of cardiovascular risk. Testosterone therapy should not be used with the goal of improving heart health but in many cases, that is an important consideration.

"It is the first study to demonstrate that significant benefit is observed only if the dose is adequate to normalise the total testosterone levels," Barua and his coauthors wrote. "Patients who failed to achieve the therapeutic range after testosterone replacement therapy did not see a reduction in [heart attack] or stroke and had significantly less benefit on mortality."

Possible explanations for heart benefits and overall survival with testosterone therapy could be related to body fat, insulin sensitivity, lipids, blood platelets, inflammation, or other biological pathways. However, there is a need for more research to determine the exact mechanism.

Despite the benefits evident from these findings. Barua stresses that there is still a need for "appropriate screening, selection, dosing, and follow-up of patients to maximise the benefit of testosterone therapy." In addition, off-label use should be discouraged and the therapy should not be initiated just because men complain of low energy and low sex drive.

Source: [European Heart Journal](#)

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