EFFECT OF TESTOSTERONE DEFICIENCY AND TESTOSTERONE THERAPY IN MEN WITH TYPE 2 DIABETES ON QUALITY OF LIFE IN A 7-YEAR FOLLOW-UP STUDY

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The 36-item Short Form Questionnaire (SF-36) is a well-recognised tool for assessing patients' health-related quality of life (HRQOL). It's been shown that the changes in some SF-36 domains in patients with Diabetes (T2D) predict relative risk of mortality, hospitalisation, inability to work and losing ability to work.
Objective: To assess SF-36 domains in men with T2D and Hypogonadism and the impact of testosterone therapy (TTh) over 7 years.
Methods: Using the research data from a baseline and a 7-year follow-up study involving men with T2D, the change in domains was calculated. All men were divided into 3 groups according to their testosterone (T) status: group 1 - men with low T (<12nmol/l), untreated (N = 57), group 2 - men with low T (<12nmol/l) on TTh (N = 31) and group 3 - men with normal T (≥12nmol/l) (N=78). None of the hypogonadal men was on TTh at baseline. The statistical analysis was carried out using SPSS software, the change in domains was analysed using Univariate analysis of variance.
Results: Mean age at baseline was 56.8 ± 8.7 years (range 34 - 75) and at follow-up was 63.9 ± 8.7 years (range 41 - 83). Mean total T level at baseline for group 1 was 9.16 ± 2.24 nmol/l (range 2.62 - 11.9); for group 2 was 7.95 ± 2.36 nmol/l (range 2.99 - 11.74); and for group 3 was 16.91 ± 4.09 nmol/l (range 12.06 - 27.31). At follow-up, it was 9.28 ± 3.75 nmol/l (range 0.4 - 17.8) for group 1; 16.56 ± 7.02 nmol/l (range 3.8 - 37) for group 2; and 12.64 ± 5.22 nmol/l (range 1.3 - 26.8) for group 3.
For two domains, we found highly significant difference in the 7-year change between groups 1 and 2 such as Vitality (V) ($p = 0.008$) and Mental Health (MH) ($p = 0.009$). For the 7-year change in General Health (GH), it showed significant difference between groups 1 and 2 ($p = 0.035$). In all above mentioned domains, there was no significant difference between treated hypogonadal men and men with normal testosterone at baseline. For three domains such as Physical Functioning (PF), Role Emotional (RE) and Social Functioning (SF), it showed the change, however, the difference wasn't statistically significant. For the two remaining domains (Role Physical and Bodily Pain), there wasn't improvement at follow-up. Age, HbA1c, BMI, pre-existing IHD, Smoking and Alcohol consumption were used as covariates.
Conclusion: 1) Hypogonadal men with T2D had poor HRQOL at baseline. The scores in all SF-36 domains were lower than in eugonadal men with T2D at baseline. 2) TTh for more than 3 months in hypogonadal men with T2D was independently associated with improvement in some SF-36 domains (RE, V, MH, SF and GH). 3) The 7-year change in the scores in three domains (V, MH and GH) was statistically significantly different between treated and untreated hypogonadal men and the difference wasn't statically significant between treated hypogonadal and eugonadal men. Therefore, testosterone status should be assessed in men with T2D and treated accordingly.