



Beneficial effects of subcutaneous testosterone therapy on lipid profiles in women

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Introduction

This study was designed to evaluate the effect of subcutaneous testosterone implant therapy on lipid profiles in female patients.

Methods

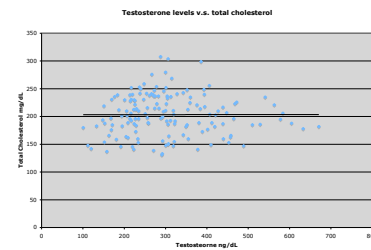
As part of a 10-year IRB approved trial on the effect of testosterone implant therapy on the incidence of breast cancer (Glaser, Dimitrakakis), testosterone levels and lipid profiles were examined in 154 pre- and post-menopausal patients treated at the clinic February-April 2010. All participants had been on testosterone therapy for a minimum of one year (mean 28.1 ± 10.4 months, range 12-56 months).

Spearman's rank correlation coefficient (ρ) was used to determine the relationship between total testosterone levels and total cholesterol, HDL, LDL, VLDL and TG. Significance was determined by a 't' transformation of ' ρ ' to a Student's t-statistic, n-2 degrees of freedom.

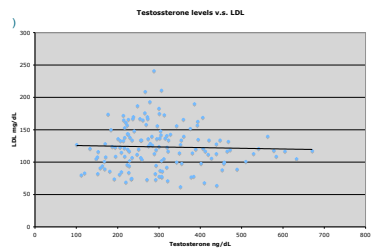
Results

Four weeks following testosterone pellet implantation:

- The mean total testosterone level was 299.36 ± 107.34 ng/dL.
- There was **no correlation** between testosterone levels and **total cholesterol** ($\rho = 0.014$, $P = 0.863$)

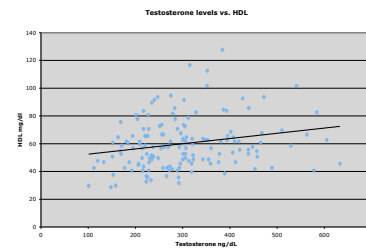


- There was **no correlation** between testosterone levels and **LDL** ($\rho = -0.033$, $P = 0.692$).

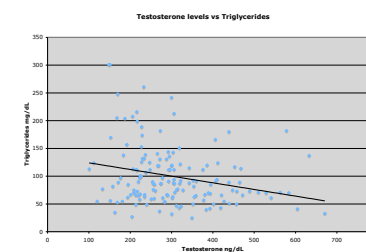
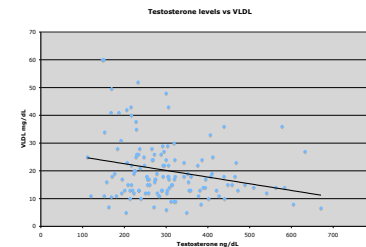


Results

- There was a significant **positive correlation** between testosterone levels and **HDL** ($\rho = 0.223$, $P = 0.006$).



- There was a significant **inverse correlation** between testosterone levels and **VLDL** ($\rho = -0.283$, $P = 0.027$) and **TG** ($\rho = -0.334$, $P = 0.006$).



Results

Only one cardiac event was reported in over 3,000 women years of therapy.

- A 103 kg, smoker developed a DVT on testosterone implant therapy and was subsequently diagnosed with 'Lupus antibody prothrombotic disorder'. Therapy with testosterone implants was continued.

Conclusion

Long-term, subcutaneous testosterone therapy has a **beneficial effect on lipid profiles** in female patients.

Higher levels of testosterone were associated with higher levels of HDL, lower levels of VLDL and lower levels of TG.

There has been no evidence that subcutaneous testosterone therapy has an adverse effect on the cardiovascular system in our patient population.

Keywords: Androgens, testosterone implant, women, lipid profiles

Abbreviations; HDL, high density lipoproteins; LDL, low density lipoproteins; VLDL, very low density lipoproteins; TG, triglycerides