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Title:

Hypogonadism in males with Type 2 Diabetes Mellitus

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**BACKGROUND AND OBJECTIVE:** There have been reported increase prevalence of Hypogonadism in diabetic men compared to age matched non-diabetic men. The objective of this study was to assess the level of androgens in T2DM patients and non-diabetics and correlate it with erectile function and visceral adiposity.

**METHODS:** This was a cross-sectional comparative study of 160 male patients with T2DM (study subjects) and 80 age matched non-diabetics (control subjects). Level of free testosterone and LH was assayed, erectile dysfunction was assessed with IIEF-5 questionnaire and clinical data of both the study and control subjects were analysed.

**RESULTS:** The study and control subjects were well matched for age, with mean±SD of study subjects being  $58.2\pm10.1$  years and control subjects was  $56.6\pm11.3$  years. The study subjects had a significantly lower mean±SD free testosterone level than the control subjects  $(16.9\pm6.7\text{pg/ml} \text{ compared with } 21.6\pm8.9\text{pg/ml}, \text{ p=0.00})$ . The mean±SD LH level of the study subjects was significant lower, compared to that of the control subjects  $(5.3\pm3.1\text{mIU/L} \text{ compared to } 7.8\pm5.5\text{mIU/L}, \text{ p<0.05})$ . Among the study subjects, ED was present in 118(73.8%) persons compared to 32(40.0%) persons in the control subjects. The difference in the prevalence of ED in the two groups was statistically significant. ( $\chi^2 = 25.9$ , df=1 ,p=0.00). The mean±SD BMI, WC and WHR was also statistically significantly higher in the study subjects compared to control subjects.BMI ( $26.2\pm4.0 \text{ kg/m}^2$  compared to  $24.5\pm3.0\text{kg/m}^2$ ; p<0.001). WC ( $98.7\pm13.1\text{cm}$  compared to  $90.5\pm10.5\text{cm}$ ; p<0.001). WHR ( $1.0\pm0.0$  compared to  $0.9\pm0.1$ ; p=0.02).

**CONCLUSION:** Our study showed that patients with T2DM had Hypogonadotrophic hypogonadism compared to the non-diabetics. Erectile dysfunction and visceral adiposity was more prevalent in men with T2DM compared to age-matched non-diabetics.