

“A Case Series on Low Testosterone Levels And Erectile Dysfunction In Male Diabetic Patients in Western U.P”

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I. Introduction

Diabetes mellitus (DM) affects an estimated 285 million people worldwide. This number is expected to reach 438 million by the year 2030, with two-thirds of all cases occurring in low- to middle-income countries. Asians develop diabetes at a younger age, at lower degrees of obesity, and at much higher rates given the same amount of weight gain compared with Western populations. The association between low serum testosterone (LST) and DM has recently received substantial attention. Studies have reported that men with type 2 DM (T2DM) have a high prevalence of LST. Further, reduced total testosterone (TT) levels have been associated with insulin resistance and subsequent risk for developing T2DM. The main symptoms of LST are reduced libido/erectile dysfunction, reduced muscle mass and strength, increased adiposity, osteoporosis/low bone mass, depressed mood, fatigue, low energy, and impaired quality of life.

Researchers have highlighted the potential metabolic consequences of testosterone decline on age-associated metabolic changes such as abdominal obesity, diabetes, and markers of prediabetes. Hypogonadism (HG) is a clinical condition consisting of both symptoms and biochemical signs of testosterone deficiency. However, many studies in men with diabetes have defined LST solely on the basis of testosterone levels. Symptoms of HG have rarely been considered in combination with biochemical testosterone deficiency. There is a growing interest in understanding the concurrence of symptoms of low testosterone and a low testosterone level since the clinical significance of a low testosterone level alone is unclear. TT concentrations are determined, to a large extent, by the circulating sex hormone binding globulin (SHBG) concentrations. In the blood of normal men, 44% of TT is bound to SHBG, 2% is unbound (free testosterone (FT)), and 54% circulates bound to albumin and other proteins. This study was conducted to determine the prevalence of LST in men with T2DM and its associated factors.

II. Material And Method

An observational study was performed in 50 patients (males) diabetic over the age of 50 years coming to medicine opd of CSSH, SUBHARTI MEDICAL COLLEGE, MEERUT. These patients were evaluated for diabetes control and complication, the presence of erectile dysfunction and for hypogonadism symptoms.

Morning serum testosterone levels were done.

Inclusion Criteria:-

All male diabetic patients older than 50 years were invited to participate in study.

Exclusion Criteria:-

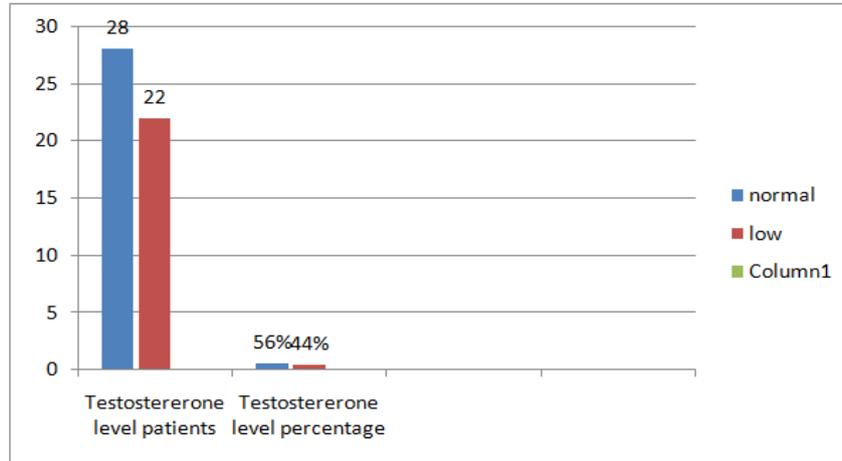
Men on hormonal therapy.

Men who had a surgical or chemical castration (for prostate cancer)

III. Results

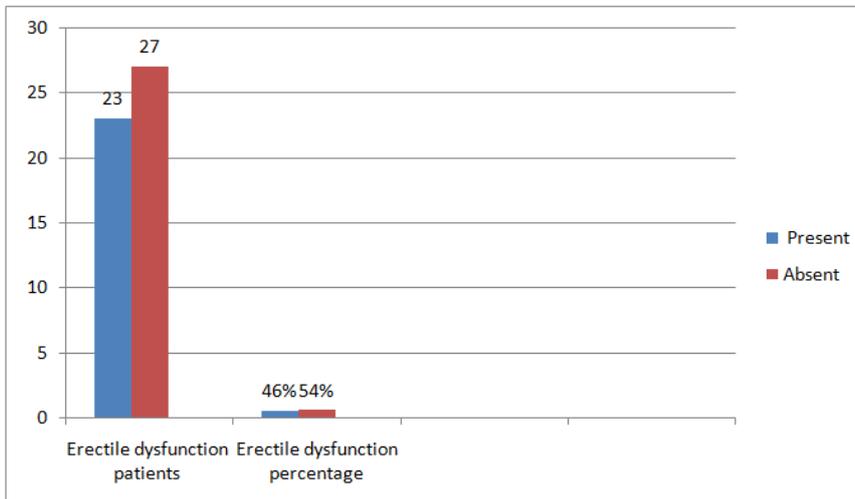
Levels Of Testosterone

Number of patients	Testosterone level	Percentage
28	NORMAL	56%
22	LOW	44%



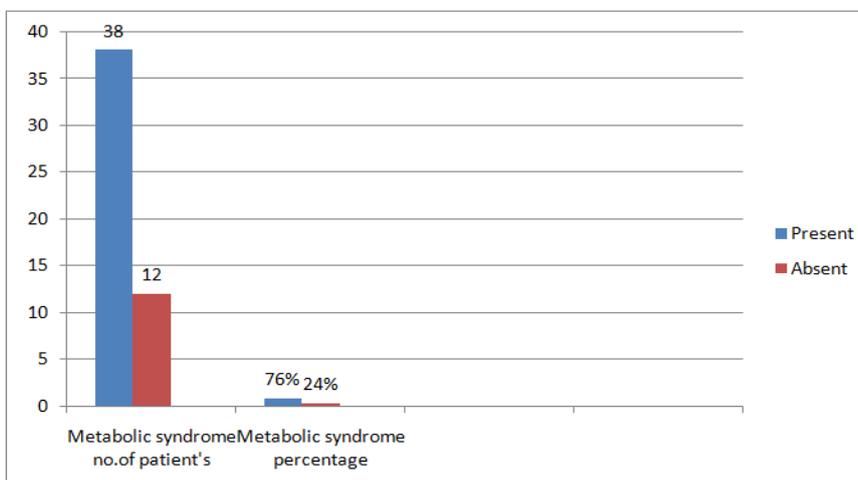
Erectile Dysfunction

Number of patients	Erectile dysfunction	Percentage
23	PRESENT	46%
27	ABSENT	54%



Features of metabolic syndrome

Number of patients	Features	Percentage
38	Present	76%
12	Absent	24%



IV. Discussion

This study confirms the high prevalence of low testosterone levels and of erectile dysfunction in diabetic male patients in a tertiary setting and argue in favour of universal screening of the population group . Multiple predictors of low testosterone levels & of erectile dysfunction were identified. Erectile dysfunction negatively affected the quality of life. Reports that have clearly established that LST is common and that at least 25% of men with type 2 diabetes have LST with inappropriately low LH and FSH concentrations are on the increase. Another 4% have subnormal testosterone concentrations with higher LH and FSH concentrations. Due to a higher prevalence of low testosterone in diabetics, the possibility that LST might contribute to diabetes-related sexual dysfunction has recently been reevaluated. The present study found that 44% of patients with T2DM had a TT level of <3 ng/ml, 56% OF patients with t2dm had normal level of TT levels. And in 46 % had erectile dysfunction and 54 % had normal sexual function.

Thus, identification of risk factors and predictors of hypogonadism is essential because of high prevalence and associated co morbidity. Thus the HbA1c, degree of albuminuria and waist circumference were significant risk Observational studies consistently show that obesity is a major determinant of low testosterone, even overriding the effects of age, noting the opposite effects on SHBG, which is arguably the strongest determinant of circulating testosterone . The association of obesity itself with low testosterone was highlighted by the largest case-control study to date, including 400 diabetic men and 1400 nondiabetic controls . Although 51% of diabetic men had low free testosterone, it was also low in 30% of the nondiabetic controls. Nevertheless, diabetic men still had significantly lower total and free testosterone than controls.

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