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# 25-HYDROXYVITAMIN D STATUS CORRELATION WITH MALE HYPOGONADISM AMONG TYPE 2 DIABETIC PATIENTS

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**Background:** Hypogonadism complicating diabetes was predominately hypogonadotropic reflecting pituitary dysfunction. We evaluated the relationship between vitamin D status with testosterone deficiency among patients with type 2 diabetes mellitus (T2DM).

**Results:** Testosterone deficiency prevalence in T2DM patients was 41.1%. Hypogonadism diabetic patients had significant lower 25(OH)D levels than patients without hypogonadism. Diabetic patients with testosterone deficiency had significant higher prevalence of vitamin D deficiency (61.5% and 28.6%), and non-significant higher prevalence of insufficiency (84.6% and 82.1%) in comparison with patients without. Vitamin D deficient diabetic patients showed significant lower total testosterone levels but not gonadotropin as compared to those without deficiency. In linear regression analysis, we found that 25(OH)D was a significant predictor of total testosterone levels in diabetic patients. As per logistic regression analysis, vitamin D deficiency was found to be a significant risk factor for male hypogonadism in diabetic patients.

**Conclusions:** Diabetic patients with testosterone deficiency had significant lower 25(OH)D levels and higher prevalence of vitamin D deficiency and insufficiency as compared to those without testosterone deficiency. Vitamin D deficient patients had lower testosterone levels. 25(OH)D was a significant predictor of total testosterone levels. Vitamin D deficiency was a significant risk factor for male hypogonadism in diabetic patients.

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