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PREVALENCE OF HYPOGONADISM AMONG MALE TYPE 2 DIABETES MELLITUS PATIENTS IN PUSAT PERUBATAN UNIVERSITI KEBANGSAAN MALAYSIA

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WH Kang,[1] M Siruhan,[2] VN Shree,[2] M Karupiah,[2] N Sukor,[2] NA Kamaruddin[2]
[1]*Department of Medicine, University Tunku Abdul Rahman, Kajang, Malaysia*
[2]*Pusat Perubatan Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia*

INTRODUCTION
Hypogonadism is prevalent among males with type 2 diabetes mellitus (T2DM). The prevalence is varied due to different diagnostic criteria. The study aimed to determine the prevalence of hypogonadism among male Malaysian patients with T2DM and its associated factors.

METHODOLOGY
There was a total of 360 participants who fulfilled the inclusion criteria. Clinical data, socio-demographic parameters and morning fasting serum total testosterone level were taken. Patients with total testosterone of 8 to 12 nmol/L underwent retesting and assessment of symptoms using the Aging Male Symptoms (AMS) scale. Hypogonadism was defined as total testosterone <12 nmol/L and calculated free testosterone <0.255 nmol/L, in addition to AMS score >26.

RESULTS
The prevalence of hypogonadism was 17.5% (n=63), of which 55.6% had hypogonadotropic hypogonadism. There were significant differences in mean weight (p=0.001), body mass index (BMI) (p<0.001), waist circumference (p<0.001), serum triglycerides (p=0.04), serum high density lipoprotein cholesterol (HDL-C) (p=0.009) and serum alanine aminotransferase (p=0.046) between hypogonadotropic hypogonadal and normogonadal males. Hypergonadotropic hypogonadal males were significantly older (p=0.034). Increasing age [adjusted odds ratio (OR) 1.043, 95% confidence interval (CI): 1.003 to1.085, p=0.035], higher BMI (adjusted OR 1.108, 95% CI: 1.045 to 1.174, p=0.001) and presence of coronary artery disease (adjusted OR 2.096, 95% CI 1.090 to 4.030, p=0.027) were associated with higher risk of developing clinical hypogonadism, while high HDL-C level was protective (adjusted OR 0.224, 95% CI 0.057 to 0.885, p<0.001).

CONCLUSION
The prevalence of hypogonadism in our cohort was 17.5%. Hypergonadotropic hypogonadism was seen in 44%, warranting further research. Older T2DM males with more severe metabolic syndrome (high BMI and low HDL-C level) with coronary artery disease have higher risk of developing hypogonadism, regardless of diabetes duration or glycaemic control.