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HOW COMPONENTS OF METABOLIC SYNDROME INFLUENCE ON LUTS AND PROSTATE VOLUME IN YOUNG MEN UNDER THE MIDDLE AGE

Hypothesis / aims of study

Relationship between lower urinary tract symptoms (LUTS) and metabolic syndrome (MetS) are well-known. In addition, the prevalence of MetS and components such as obesity, hypertension, dyslipidemia has been increasing in young men. As a result, the prevention and treatment of components of Mets are important for young men's general and urologic health. However, the study about the association between risk factors of Mets and LUTS with prostate volume in young men under the middle age is lacking. Therefore, the relationship between components of Mets and prostate volume as well as LUTS in young men was analysed.

Study design, materials and methods

A medical record of 270 from the men (30 – 39 years old) who visited in the health promotion centre for health check-up was reviewed. They also completed international prostate symptoms score (IPSS) for evaluating LUTS and received transrectal ultrasound for measuring prostate volume. Component of MetS such as waist circumference (WC), blood pressure (BP), fasting blood sugar (FBS), triglyceride (TG), high-density lipoprotein cholesterol (HDL) and IPSS were analysed according to the severity of LUTS (IPSS ≤ 7 and ≥ 8) and prostate volume (< 20 g and ≥ 20 g).

Results

Mean age was 36.2 years old and mean WC was 86.0 cm. Hypertension was observed in 11 men (4.1%). Mean FBS, TG and HDL were 95.1 mg/dL, 143.2 mg/dL, 46.7 mg/dL, respectively. Mean PSA was 0.6 ng/mL. Ten percent (27/270) of men reported IPSS more than 8 and men with prostate size more than 20 mg was 21.5 (58/270) %. Components of Mets (WC, BP, FBS, TG, HDL) between men reporting IPSS less than 7 and more than 8 were not significantly different. However, prostate size (23.3 ± 5.7 g; 27/270) of the men with IPSS more than 8 was significantly large compared with that of the men with IPSS less than 7 (19.8 ± 5.3 g; 243/270) ($p < 0.05$). According to prostate size, the men with prostate volume measured as more than 20 g (88.5 ± 9.2 cm; 58/270) showed significantly increased WC compared with that of the men with prostate volume less than 20 g (83.9 ± 9.0 cm; 212/270). TG (160.0 ± 100.5 mg/dL) of the men with prostate volume more than 20 g was higher than that (129.2 ± 89.4 mg/dL) of the men with prostate volume less than 20 g, however, there was no significant difference. In addition, twenty nine men (10.7%) was diagnosed as MetS and significantly large prostate volume (23.7 ± 3.9 g) was observed compared with the men without MetS (19.5 ± 5.7 g) ($p < 0.05$).

Interpretation of results

We noted that prostate volume was also associated with LUTS in young men under the middle age from the findings showed that significantly larger prostate volume was observed in men with higher IPSS score. Moreover, obesity seemed to be a risk factor to increase prostate volume in young men because increased WC and higher TG were observed in the men with prostate volume more than 20 g.

Concluding message

Therefore, we suggest that obesity and Mets are important risk factors to increase prostate volume and induce prostate-associated LUTS in young men. As the prevalence of MetS is increasing in young men, it is important to know how Mets and its components influence LUTS to prevent and reduce impairment of voiding function.

References

1. Nat Rev Urol 2016;13:108-19.
2. J Intern Med 2007;261:159-69.

Disclosures

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