AB172. Androgen receptor CAG repeat length polymorphism is associated with risk of metabolic syndrome in a Korean male

Cheol Yong Yoon, Young Dae Bae, Jong Wook Kim, Je Jong Kim, Du Geon Moon

Department of Urology, College of Medicine, Korea University, Seoul, Korea

Introduction: The metabolic syndrome (MS) includes a clustering of metabolic derangements and low testosterone levels have been shown to be associated with both components of MS and MS per se. In this study we explored the relationship between androgen receptor (AR) CAG repeat length polymorphism and MS in a Korean male population.

Materials and methods: The association between AR CAG repeat length polymorphism and MS was analyzed in 144 Korean men (40-80 years old). MS was diagnosed according to the National Cholesterol Education Program Adult Treatment Panel III (NCEP) criteria (any three or more of the following components were present: abdominal obesity (WC >102 cm), triglycerides >150 mg/dL (>1.7 mmol/L), HDL cholesterol <40 mg/dL (<1.04 mmol/L), fasting glucose >110 mg/dL (>6.1 mmol/L), or blood pressure of >130/85 mmHg). AR CAG repeat length polymorphism was determined by microsatellite fragment sizing and association with clinical factors (MS, age, height, weight, BMI, waist circumference, FBS, total cholesterol, HDL, LDL, triglyceride, HbA1c, sex hormone binding globulin) were analyzed.

Results: Mean age was 56.6±8.4 years. Mean AR CAG repeat length and serum testosterone levels were 20.74±12.5 and 5.5±1.7 ng/mL respectively. Twelve men with hypogonadism (serum testosterone level lower than 3.5 ng/mL) showed relatively short AR CAG repeat length compared with men with normal serum testosterone level (18.33 *vs.* 20.95, P=0.48). Long AR CAG repeat length is associated with an increase in LDL, triglyceride, and HbAc1 while showing negative correlation with HDL and total cholesterol. Total 113 men had at least one component of MS and 27 men were diagnosed with MS (more than three components). Men with MS showed relatively longer AR CAG repeat length compared with men without MS (23.3 *vs.* 19.7, P=0.14). Hypogonadal men showed relatively high risk of MS (OD: 1.656, CI: 0.409-6.709) compared with eugonadal men and in cross-sectional analyses, men with AR CAG repeat length less than 21 combined with hypogonadism showed more increased risk of MS (OR: 2.074, CI: 0.872-4.931).

Conclusions: In conclusion, AR CAG repeat length and hypogonadism seem to be associated with increased risk of MS in Korean male.

Keywords: CAG; metabolic syndrome(MS); length polymorphism; hypogonadism

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AB173. Effect of testosterone replacement therapy on lipid profile in the patients with testosterone deficiency syndrome

Kyung-Sik Han, Tai Young Ahn

Department of Urology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

Introduction: As testosterone replacement therapy (TRT) use increases, its role on cardiovascular health must be explored. However, the effect of testosterone in cardiovascular health remains unclear. We evaluated the lipid profile changes with TRT in the population with testosterone deficiency syndrome.

Material and methods: We performed a retrospective observational study in 230 male patients (mean age 60.1 years) with testosterone deficiency syndrome between 2007 and 2012 at the Asan Medical Center. Testosterone was replaced in hypogonadal patients by regular intramuscular injection (long acting testosterone undecanoate, 1,000 mg) every 3 month at least for 1 year. The parameters estimated at the time of diagnosis, 6 and 12 months after TRT were: total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), triglycerides (TGs), low-density lipoprotein cholesterol (LDL-C).

