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건강한 한국 성인에서 피하지방과 내장지방이 사구체 과여과에 미치는 영향

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Both Subcutaneous and Visceral Adipose Tissue are Related with Glomerular Hyperfiltration in Nondiabetic, Nonhypertensive Korean Adults

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Background: Glomerular hyperfiltration (GHF) is recognized as an early marker of progressive kidney dysfunction in obese population. The association between body fat distribution and GHF has not been studied so far. This study aimed to identify the relationship between GHF and body fat distribution measured by CT scan in generally healthy Korean adults.

Materials and Methods: The study population included individuals aged 20-64 years having a routine health check-up. Among them, we selected 6,093 individuals without diabetes, hypertension, overt proteinuria, or hematuria. Creatinine clearance (Ccr) was estimated using Cock-croft Gault equation. Since the clear standard GHF has not been set up so far, this study defined GHF as highest quintile after stratifying by gender as recent studies.

Results: In a multivariated model, the OR of GHF significantly increased in parallel with increasing both SAT and VAT values (SAT; men, OR=3.0, p value<0.01; women, OR=2.1, p value <0.01 VAT; men, OR=1.5, p value <0.05; women, OR=2.2, p value <0.01 for comparisons of lowest vs. highest quartile; p for trend <0.01). After stratified by body mass index (BMI) (non-overweight <23 kg/m^2, overweight or obese ≥23 kg/m^2), subjects with greater VAT and SAT quartiles even in non-overweight subjects (BMI< 23kg/m2) had higher OR for GHF (all P for trend <0.01)

Conclusion: Both VAT and SAT are positively associated with GHF in generally healthy Korean adults, even if BMI is normal.

Key Words: 복부지방, 사구체 과여과, 비만
Abdominal adipose tissue, Glomerular hyperfiltration, Obesity