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A Case Control Study on Body Composition of Patients of Type 2 Diabetes Mellitus

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Objectives: To assess the relationship between body composition, anthropometric and biochemical variables and the risk of type 2 diabetes mellitus (DM)

Methods: An age (+1 year) and sex matched case-control study was conducted in a tertiary care hospital in Pune including cases (n=100) with newly diagnosed DM and controls (n=100) who were free of DM. Only males aged 30-60 years were included. After obtaining the written informed consent and filling a pre-tested questionnaire, patients and controls were requested to undergo anthropometric measurements and body composition analysis using In body 720 body composition analyser imported from South Korea. The Student t-test, Chi-square test and Binary logistic regression was used and $P < 0.05$ was considered as significant.

Results: Diabetic patients were found to be having statistically significantly low skeletal muscle mass and high visceral fat area, percent body fat, waist circumference, waist hip ratio, total cholesterol, serum triglycerides compared to controls. Binary logistic regression analysis showed that there was a significantly increased risk for DM associated with low skeletal muscle mass (AOR:4.06; 95%CI:2.10,7.84) and high waist-hip ratio (5.49; 1.77,16.98).

Conclusions: This study suggested a possible relationship between increased risk of DM with high waist-hip ratio and low skeletal muscle mass.