

## Obesity Fitness Expo 2017: Study of the relationship between abdominal obesity and microalbuminuria in elderly- Amira H Mahmoud- Ain shams University, Egypt

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**Introduction & Objective:** Obesity increases the risk for variety of diseases which in turn, decreases the overall lifespan in both men and women. Though the cardiovascular risks of obesity are widely acknowledged, less often identified is the relationship between obesity and renal function. The objective is to study the relationship between abdominal obesity and micro-albuminuria in elderly subjects.

**Method:** A cross-sectional study was conducted on 200 elderly subjects, aged  $\geq 60$  years. Subjects were recruited from both Geriatrics and Gerontology department and Internal medicine at Ain Shams University Hospital, Cairo, Egypt. All patients had anthropometric measurements done including weight, height, body mass index, waist circumference, hip circumference and waist hip ratio, also assessment of blood pressure and albumin/creatinine ratio in urine.

**Results:** Mean age of participants was  $74.96 \pm 5.603$  years. Mean waist circumference in whole sample measured  $96.78 \pm 16.85$ , mean hip circumference was  $106.31 \pm 19.24$ , mean waist hip ratio measured  $0.91 \pm 0.09$  and mean body mass index was  $27.83 \pm 9.8$ . All of waist circumference, waist hip ratio, systolic blood pressure, hypertension, diabetes mellitus, ischemic heart disease, renal disease were significantly related to micro-albuminuria. Also, fasting blood sugar, serum triglycerides and renal functions were related to micro-albuminuria, meanwhile on multivariate analysis abdominal obesity as measured by waist hip ratio was the strongest variable correlated with micro-albuminuria in elderly subjects in the whole sample. The data collected were coded, tabulated, revised and analyzed statistically using the SPSS program (version 20). Descriptive statistics were produced using the mean and standard deviation for the numerical parametric data and in number and percentage for the categorical data.

Statistical analysis was performed for quantitative variables using an independent t-test in the case of two independent groups, a t-test paired in samples linked with parametric data. Stepwise linear regression analysis used for significant clinical variables. The significance level was taken at a P value  $< 0.05$ . Analysis of the basic socio-demographic characteristics of the subjects showed that the average age of the participants was  $74.9 \pm 5.6$  years; men represented 52% of the subjects and women 48%. The distributions of co-morbidities showed that hypertension followed by diabetes were the most common co-morbidities among participants. The distribution of anthropometric measurements showed that the average WC measured  $96.7 \pm 16.8$ , the average HC measured  $106.3 \pm 19.2$ , the average WHR measured  $0.91 \pm 0.09$  in subjects and BMI mean was  $27.8 \pm 9.8$ . The relationship between age, anthropometric measurements, blood pressure and laboratory measurements (FBS, renal function tests, lipid profile) with MA in subjects. Systolic blood pressure, fasting blood sugar, serum triglycerides, kidney function, WC and WHR are all significantly correlated with ACR. A significant relationship between diabetes, hypertension, kidney disease, ischemic heart disease and ACR. The sex difference showed a significant correlation with MA. Significant clinical variables (Millet diabetes, hypertension, kidney disease, ischemic heart disease, gender, systolic blood pressure, fasting blood sugar, serum triglycerides, kidney function, WC and WHR) were all captured in a multivariate regression model that shown in the final analysis step that abdominal obesity as presented by WHR is the variable most correlated with the presence of micro-albuminuria.

**Conclusion:** Abdominal obesity is strongly associated with micro-albuminuria in Egyptian elderly.