

CS6.

**ASSOCIATION BETWEEN OVERALL OBESITY, CENTRAL OBESITY,
SERUM INSULIN LEVELS AND HYPERTENSION**

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The association between overall obesity, central obesity, serum insulin levels and hypertension was investigated in a population based case control study.

Cases were 123 non diabetic, untreated hypertensives (48 males). Controls (n=123), were age and sex matched normotensives from the general population. The body mass index (BMI) was calculated from the weight and height. Waist hip girths were measured with the subject standing. The waist was defined as the smallest girth between costal margin and iliac crests and the hip as the circumference at the level of the greater trochanters. Fasting serum insulin assay was done using Boehringer Mannheim Test Insulin Kits (ELISA).

The BMI and waist hip ratio (WHR) in hypertensives was significantly higher compared to normotensives, in females but not in males. Values for hypertensives vs normotensives were as follows: BMI 21.33 (SD 4.33) vs 20.21 (SD 2.98), WHR 0.91 (SD 0.05) vs 0.9 (SD 0.05) in males and BMI 24.12 (SD 5.37) vs 21.03 (SD 3.83)*, WHR 0.91 (SD 0.12) vs 0.88 (SD 0.08)* in females. In female hypertensives fasting serum insulin levels of subjects with WHR above the 50th percentile were also significantly higher compared to serum insulin levels (mm/ml) of those with WHR below the 50th percentile; 10.06 (SD 6.01) vs 7.48 (SD 3.6) ($p<0.05$). In normotensive females this difference was not seen.

There is a significant association between overall obesity, central obesity, fasting serum insulin levels and hypertension in Sri Lankan females.

(* $p<0.05$)