# Association of suboptimal blood pressure control with body size and metabolic abnormalities.

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## Abstract

**BACKGROUND:** Blood pressure control is disappointingly suboptimal in populations. Whether metabolic abnormalities influence blood pressure control is unclear. We evaluated the relationship between metabolic risk factors and blood pressure control in a large population of patients with hypertension.

**METHODS:** From our Hypertension Centre, 4551 subjects (43.4% women; age 51 +/- 12 years) were selected with available data for metabolic and cardiovascular evaluation (no prevalent cardiovascular disease), at the last control visit. A modified Adult Treatment Panel III definition of metabolic syndrome was adopted changing waist girth for body mass index (>or= 30 kg/m2). Blood pressure was considered controlled when supine office blood pressure was below 140/90 mmHg, or uncontrolled if this target was not achieved. Blood pressure control has been evaluated in relation to metabolic risk factors, adjusting for age, sex, and the number of antihypertensive medications.

**RESULTS:** The metabolic syndrome phenotype was found in 1444 individuals (31.72%). The probability of uncontrolled blood pressure was 43% higher in patients with the metabolic syndrome than in those without, independently of covariates. This probability was also confirmed in 728 untreated patients. The probability of uncontrolled blood pressure significantly and independently increased with the increasing number of metabolic risk factors. Uncontrolled blood pressure was also independently associated with the prescription of more medications.

**CONCLUSION:** Insufficient control of blood pressure is independently associated with the presence of the metabolic syndrome. Blood pressure control worsens with the increasing number of metabolic risk factors associated with hypertension, despite the use of a greater number of medications.