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Relation of arterial blood pressure to metabolic and inflammatory variables in non-diabetic subjects

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The study was designed to understand the metabolic and inflammatory variables in non-diabetic subjects categorized by European society of Hypertension-European society of cardiology (ESH-ESC) and Joint National Commission (JNC-7) criteria. 277 subjects found to be non-diabetic following fasting glucose (FPG), 75 gm post load prandial glucose and glycated haemoglobin estimations in plasma participated in the study. Blood pressure (BP), Body mass index, waist circumference (WC) and waist –hip ratio (WHR) was noted. Fasting lipid profile, fasting insulin (FIn), high sensitive C-Reactive Protein (hsCRP) and fibrinogen were assayed following standard protocols. Low density lipoprotein cholesterol (LDL) was calculated by Friedwald's formula and insulin reistance was calculated as HOMA-IR. By the ESH-ESC criteria, 86 (31.04%) were prehypertensive (preHTN) and 61 (22.02%) were hypertensive (HTN). 39.35% were prehypertensives as per the JNC-7 criteria. Age, WC, WHR, FIn, HOMA-IR, triglycerides (Tg), Total cholesterol (TC)/ High density lipoprotein cholesterol (HDL) ratio and hsCRP were statistically higher in both preHTN and HTN subjects in both the criteria. HTN additionally had higher TC and FPG. Between the preHTN and HTN groups in both criteria, significant difference was not found in any of the parameters. More than half the subjects fit into the preHTN or HTN category as per both criteria. Both the groups are also burdened with metabolic derangements including hyperinsulinaemia, IR, dyslipidemia, a proinflammatory environment and abdominal adiposity. Since pronounced HOMA-IR and CRP levels were seen in preHTN of ESH-ESC criteria (BP > 130/85 mmHg), this group may serve as target candidates for rigorous management.

Biography

Poornima Manjrekar is a medical graduate with an MD and PhD in Biochemistry from Manipal University, Karnataka, India. She is currently serving as Professor and Head of the Department of Biochemistry at Kasturba Medical College, Mangalore, and a constituent college of Manipal University. With research interest in type 2 diabetes and related lifestyle disorders, she is a recognized guide for postgraduate and doctoral students and has published more than 30 papers in reputed journals. She is a part of academic and research committees of the institution as well as a member of several professional bodies.

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