[Nutr Metab Cardiovasc Dis.](http://www.ncbi.nlm.nih.gov/pubmed/21570269" \o "Nutrition, metabolism, and cardiovascular diseases : NMCD.) 2011 May 11. [Epub ahead of print]

**Partial normalization of components of metabolic syndrome does not influence prevalent echocardiographic abnormalities: The HyperGEN study.**

[de Simone G](http://www.ncbi.nlm.nih.gov/pubmed?term=%22de%20Simone%20G%22%5BAuthor%5D), [Arnett DK](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Arnett%20DK%22%5BAuthor%5D), [Chinali M](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Chinali%20M%22%5BAuthor%5D), [De Marco M](http://www.ncbi.nlm.nih.gov/pubmed?term=%22De%20Marco%20M%22%5BAuthor%5D), [Rao DC](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Rao%20DC%22%5BAuthor%5D), [Kraja AT](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Kraja%20AT%22%5BAuthor%5D), [Hunt SC](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Hunt%20SC%22%5BAuthor%5D), [Devereux RB](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Devereux%20RB%22%5BAuthor%5D).

**Source**

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**Abstract**

**BACKGROUND AND AIMS:**

Metabolic syndrome (MetS) is a complex condition characterized by different phenotypes, according to the combinations of risk factors and is associated with cardiovascular abnormalities. Whether control of MetS components by treatment produces improvement in the associated cardiovascular abnormalities is unknown. We investigated whether partial control of components of MetS was associated with less echocardiographic abnormalities than the complete presentation of MetS based on measured components.

**METHODS AND RESULTS:**

We evaluated markers of echocardiographic preclinical cardiovascular disease in MetS (ATP III) defined by measured components or by history of treatment, in 1421 African-American and 1195 Caucasian non-diabetic HyperGEN participants, without prevalent cardiovascular disease or serum creatinine >2 mg/dL. Of 2616 subjects, 512 subjects had MetS by measured components and 328 by history. Hypertension was found in 16% of participants without MetS, 6% of those with MetS by history and 42% of those with MetS by measured components. Obesity and central fat distribution had similar prevalence in both MetS groups (both p < 0.0001 vs. No-MetS). Blood pressure was similar in MetS by history and No-MetS, and lower than in MetS by measured components (p < 0.0001). LV mass and midwall shortening, left atrial (LA) dimension and LA systolic force were similarly abnormal in both MetS groups (all p < 0.0001 vs. No-MetS) without difference between them.

**CONCLUSIONS:**

There is a little impact of control by treatment of single components of MetS (namely hypertension) on echocardiographic abnormalities. Lower blood pressure in participants with MetS by history was not associated with substantially reduced alterations in cardiac geometry and function.

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