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Conference Abstract

## Primary care of hypertensive patients and the risk of acute cardiovascular events

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## Abstract

**Purpose:** Hypertension is one of the most important risk factors for acute cardiovascular events such as myocardial infarction and stroke. It is unknown which aspects are most important in determining which hypertensive patients have more risk to get an acute myocardial infarction or stroke and get hospitalised for this event. The objective of this study was to establish which factors play a role in determining the risk of an acute cardiovascular event in hypertensive patients. We specifically assessed the difference in use of general practitioner (GP) care, medication and clinical and demographic parameters by comparing two groups of hypertensive patients: those who were hospitalised with an acute cardiovascular event and those who did not experience any acute cardiovascular event.

**Methods:** We linked Dutch Register of General Practitioners (DRGP) and Hospital Discharge Register using personal identification number. From DRGP we identified patients that were diagnosed with hypertension (ICPC code K85, K86 and K87) in 2009 or before. Further we identified which of those patients were hospitalised for myocardial infarction (ICD-9-CM 410) or stroke (ICD-9-CM 430-436) in 2010. Using multilevel logistic regression we identified the risk factors for these hypertensive patients to be hospitalised with an acute myocardial infarction (AMI) or stroke.

**Findings:** In total 34328 hypertensive patients were identified in DRGP. Of those patients 448 were hospitalised with AMI or stroke in 2010. The risk of hospitalisation for AMI or stroke significantly increased with age and with increasing number of cardiovascular diseases (other than hypertension). The risk of hospitalisation for women was lower than that for men. Patients hospitalised for an acute cardiovascular event had more GP contacts of all types (mean = 9,7 contacts for patients hospitalised with an acute event versus 7.9 contacts for patients without acute events). Patients hospitalised with an acute event had also significantly more drugs prescribed,

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except lipid modifying agents that were equally often prescribed in both groups with and without acute cardiovascular events. Both mean systolic and mean diastolic blood pressure was significantly elevated in patients that were hospitalised with AMI or stroke. Patients hospitalised for an acute event had about 4 times higher risk to have a frequent number (13+) of GP contacts per year. This risk was partly explained by the number of other chronic and other cardiovascular diseases that these patients had. Patients with hypertension that were hospitalised for an acute event had significantly more frequent contacts with their GP already 11 months before hospitalisation compared to hypertensive patients that did not experience an acute event.

**Discussion:** Older male patients and with multiple cardiovascular conditions are at higher risk to be hospitalised for an acute myocardial infarction or stroke. These patients have significantly more contacts with their GP long before hospitalisation. Despite these more frequent contacts and higher number of prescriptions the blood pressure of those patients is less well controlled. The results of this study can help primary care providers better identify patients with hypertension that are at higher risk for getting an acute cardiovascular event.

**Keywords:**

**primary care, hypertension, acute cardiovascular events**

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**Presentation** available at: <http://www.euprimarycare.nl/istanbul/conference-programme-efpc-2013-istanbul-results>