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The differential blood pressure sign in general practice: prevalence and prognostic value.

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BACKGROUND: Patients sometimes have differences of >/=20/10 mmHg in their blood pressure depending on which arm is measured. The prevalence and prognostic value of this finding in general practice are unknown. If these differences are due to peripheral vascular disease, these patients may be at increased risk of cardiovascular or cerebrovascular events. OBJECTIVE: Our aim was to establish the frequency and prognostic value of a blood pressure difference between arms in one rural general practice. METHODS: Paired blood pressure readings were collected from patients attending the surgery. The outcome measures of myocardial infarction, new diagnosis of angina, a cerebrovascular event or death were recorded prospectively. RESULTS: A total of 280 patients were examined, and of these 13.6% had a systolic blood pressure difference (SBPD) of >/=20 mmHg, and 23.2% a diastolic blood pressure difference (DBPD) of >/=10 mmHg. Eighty-three patients were followed-up for 5.6 years. Patients with a DBPD of >/=10 mmHg showed a mean event-free survival of 3.3 years [95% confidence interval (CI) 2.2-4.4] compared with 5.0 years (95% CI 4.7-5.3) for those with a DBPD of <10 mmHg (P < 0.0001). Patients with an SBPD of >/=20 mmHg showed a mean event-free survival of 3.5 years (95% CI 2.3-4.7) compared with 4.9 years (95% CI 4.5-5.2) for an SBPD of <20 mmHg (P = 0.043). CONCLUSIONS: During a single assessment of blood pressure, there will be a minority of patients with a difference of >/=20/10 mmHg between their right and left arms. Measurement of both arms is therefore necessary to diagnose and treat hypertension accurately. This study suggests an association between blood pressure difference and increased morbidity and mortality. Priority should be given to managing other risk factors aggressively in those patients with a reproducible blood pressure difference of >/=20/10 mmHg.

Significant Blood Pressure Differences Between Arms May Indicate Increased Risk Of Morbidity And Mortality

A DGReview of :"The differential blood pressure sign in general practice: prevalence and prognostic value."
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By Andrew A. Skolnick

Significant blood pressure differences between the right and left arms of patients may indicate an increased risk of morbidity and mortality.

Patients sometimes have blood pressure differences between their arms that are greater than or equal to 20/10 mm Hg. The prevalence and prognostic value of this finding are unknown. If these differences are due to peripheral vascular disease, these patients may be at increased risk of cardiovascular or cerebrovascular events.

To establish the frequency and prognostic value of such blood pressure differentials, C. E. Clark at the Mid Devon Medical Practice, School Surgery, in Witheridge, Devon, England, and colleague took blood pressure readings from both arms of patients attending the surgery.

The researchers also prospectively recorded myocardial infarction, new diagnosis of angina, a cerebrovascular event, or death. A total of 280 patients were included in the study. Of these 13.6 percent had a systolic blood pressure difference greater than or equal to 20 mm Hg, and 23.2 percent had a diastolic blood pressure difference greater than or equal to 10 mm Hg.

Eighty-three patients were followed-up for 5.6 years. Patients with a diastolic blood pressure difference greater than or equal to 10 mmHg had a mean event-free survival of 3.3 years compared with 5.0 years for those with a diastolic blood pressure difference less than 10 mm Hg, the researchers reported.

Patients with an a systolic blood pressure difference of greater than or equal to 20 mm Hg showed a mean event-free survival of 3.5 years compared with 4.9 years for a systolic blood pressure difference of less than 20 mmHg.

"During a single assessment of blood pressure, there will be a minority of patients with a difference of greater than or equal to 20/10 mm Hg between their right and left arms," the researchers noted. "Measurement of both arms is therefore necessary to diagnose and treat hypertension accurately.

"This study suggests an association between blood pressure difference and increased morbidity and mortality," they concluded. "Priority should be given to managing other risk factors aggressively in those patients with a reproducible blood pressure difference of greater than or equal to 20/10 mmHg."
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