



Treatment of Hypertension in Stroke Patients

On behalf of the Canadian Hypertension Education Program (CHEP), Dr. Rabkin details the importance of the management of hypertension in those patients who have experienced a stroke. Reduction in BP in these patients can significantly decrease morbidity and mortality.

Simon W. Rabkin, MD, FRCPC, FACC, on behalf of CHEP

Blood pressure (BP) reduction is an important and worthwhile goal for patients who have had a stroke. Investigation of physician practice has suggested that physicians are reluctant to reduce BP in patients who have had a stroke, fearing that the lowering of BP may impair cerebral perfusion. Instead, data presents compelling evidence that BP reduction in patients who have survived the acute stroke event is associated with a significant decrease in subsequent morbidity and mortality.

At present, there is insufficient evidence to make recommendations about routine BP management immediately after the acute stroke, as the data are conflicting and clinical trials in this patient group are ongoing. Thus, the Canadian Hypertension Education Program (CHEP) has recommended that caution is indicated in deciding whether to lower BP in the acute stroke situation; pharmacological agents and routes of administration should be chosen to avoid precipitous falls in BP. However, CHEP also recommends that strong consideration should be given to the initiation of antihypertensive therapy after the acute phase of a non-disabling stroke or transient ischemic attack.

This recommendation is based on large scale placebo-controlled clinical trials that demonstrate a significant reduction in subsequent cardiovascular (CV) events in patients who have a history of stroke or have had a transient ischemic attack. Antihypertensive drug therapy

produced a 28% (relative risk) reduction in recurrent stroke.¹ The benefits of antihypertensive drug therapy did not depend on whether the person had had an ischemic or hemorrhagic stroke, although the benefits were greater for those with hemorrhagic stroke. The relative risk of any stroke during follow-up was reduced by 26% among patients whose baseline cerebrovascular event was an ischemic stroke and by 49% among those whose baseline event was an intracerebral hemorrhage.² The treatment strategy which consisted of beginning with an angiotensin-converting enzyme (ACE) inhibitor and adding a diuretic translated into the prevention of one stroke for approximately every 23 patients treated for five years.¹ The benefits of antihypertensive drug therapy occurred in

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patients who did or did not have hypertension and did not have diabetes mellitus.

These data are consistent with large-scale cohort studies which have clearly demonstrated that lower BP levels are continuously associated with lower risks of stroke occurrence for either ischemic or hemorrhagic stroke. In patients aged 60 to 79 years, each 10 mmHg that systolic BP is lowered is associated with approximately a one-third decrease in risk of fatal and non-fatal stroke.³

What are the BP targets

CHEP recommends that following the acute phase of a stroke, patients should have their BP chronically controlled to a target of < 140/90 mmHg. These recommendations are based on the data of achieved follow-up BPs in clinical trials. The lowest rate of stroke recurrence was among the patients with the lowest treatment BPs and the risks of recurrent stroke increased progressively with higher BP levels.⁴ While minor side-effects were more common at lower treatment BPs, there were no excess of serious complications at lower BPs.⁴ There are no patient groups among whom more intensive BP reductions would not produce a greater reduction in recurrent stroke.

These data are consistent with clinical trials in patients with hypertension who do not have stroke. In patients aged 60 to 79 years, there is a decrease in risk of fatal and non-fatal stroke with BP lowering that is continuous down to levels of at least 115/75 mmHg and is consistent for both sexes.³

About the author...

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Choice of therapy

A combination of diuretics and inhibitors of the renin angiotensin system are the preferred initial pharmacologic agents for the management of hypertension in the setting of a cerebrovascular ischemic event. β -adrenergic blockers are not recommended as the limited data with these agents in patients with stroke have failed to show an advantage over placebo.⁵ Considering that lower BP conveys an advantage for recurrence of CV events, other antihypertensive agents should be used in order to reach the target BP levels.

Conclusion

After the acute phase of non-disabling stroke or transient ischemic attack, strong consideration should be given to the initiation of antihypertensive therapy. Antihypertensive drug therapy with an ACE inhibitor and a diuretic reduce the recurrence of stroke among patients who experienced an ischemic (by 26%) or hemorrhagic stroke (by 49%). BP can be safely targeted to < 140/90 mmHg with the anticipation that lower BP will be associated with lower recurrence rates with, at most, minor side effects.



References

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