

## **SHOULD TREATMENT OF ACUTE STROKE BE THE SAME FOR ANTERIOR AND POSTERIOR STROKES? NO**

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1. Almost all kinds of stroke Guidelines for acute ischemic stroke indicate that in the early stage the blood pressure do not need lowering unless above 200/105mmHg. They use most samples in evidence-based medicine were collected with anterior circulation ischemic (ACI) stroke, seldom distinguished from posterior circulation (PCI). That means those guidelines could not give correct suggestions to PCI.

2. The physiological mechanism of blood pressure was different between AC and PC .The brain receives blood from two sources: The internal carotid arteries, which arise at the point in the neck where the common carotid arteries bifurcate, the internal carotid arteries branch to form two major cerebral arteries, the anterior and middle cerebral arteries. The vertebral arteries. The right and left vertebral arteries come together at the level of the pons on the ventral surface of the brainstem to form the midline basilar artery.

Moving away from the heart the large elastic arteries branch off into smaller vessels in which the artery walls become proportionately more muscular. However, the right and left vertebral arteries come together form the larger basilar artery. The BP regulation of PC only rely on VB, not BA since brain stem is the central organ for life. BA supplies brain stem. Thus, any Bp changes of BA could cause severe damage to brain stem. Moreover, variation of vertebral artery is frequently seen. The different variation trend may suggest posterior circulation need more nonactive blood pressure.

3. Acute posterior circulation ischemic stroke requests strict BP control, otherwise it will probable progress if according to guidelines to control blood pressure. Clinical experience suggest the SBP stay at lower than 180 mmHg may get better outcome. Lowering blood pressure in acute posterior ischemic stroke does not result in hypoperfusion, however, it protects the cardiovascular system.

4. The effect of Cerebral autoregulation which maintains cerebral blood flow (CBF) over a wide range of BP levels, is dysfunctional following stroke so that perfusion may become dependent on BP. Lowering BP might reduce CBF and worsen outcome. Take good care of DBP is also very important. DBP is suggested to be maintain around 80 mmHg in acute posterior circulation ischemic stroke.

5. As a result, clinical equipoise results from these disparate findings – epidemiology suggests that high BP should be lowered which pathophysiology argues that it should not be.

We recommend lowering BP to 160/90mmHg in acute posterior circulation ischemic stroke.