

The effect of Induced hypertensive therapy in acute ischemic stroke patients with steno-occlusive disease and hemodynamic instability

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Objectives: Induced hypertensive therapy (IHT) has used to enhance cerebral perfusion pressure in subarachnoid hemorrhage and stroke, but there is no established indication for IHT in ischemic stroke. We report the usage of IHT in acute ischemic patients with hemodynamic instability caused by steno-occlusive disease of a main cerebral artery. Method: We reviewed acute ischemic stroke patients with cerebral perfusion deficit due to intracranial and extracranial steno-occlusive disease. IHT was applied for early neurological deterioration and maintained until hemodynamic instability was stabilized over 24 hours or neurointervention including angioplasty and extracranial intracranial arterial bypass surgery were performed. Result: 52 patients were analyzed. Territories of stroke were 31 of anterior circulation of intracranial vessels, 11 of posterior vessels, and 10 of extracranial vessels. Mean duration of IH therapy was 4176.04 minutes. Pre and post NIHSS score of IH therapy was 8.19 and 7.35, respectively. 30 patients (57.7%) were showed improvement and 13 patients (25%) were stabilized without further aggravation. 16 patients revealed bradycardia. There was no fatal complication of therapy. 15 patients were performed further treatment include bypass surgery, angioplasty, and stenting after IH therapy. At 3 months follow up, 34 patients showed good outcomes (modified Rankin scale 0, 1, and 2). Conclusion: IHT may be safe and effective for the neurologic deterioration or progression of acute ischemic stroke with hemodynamic instability due to severe steno-occlusive disease of major cerebral artery. Large randomized trials are needed to confirm this result.