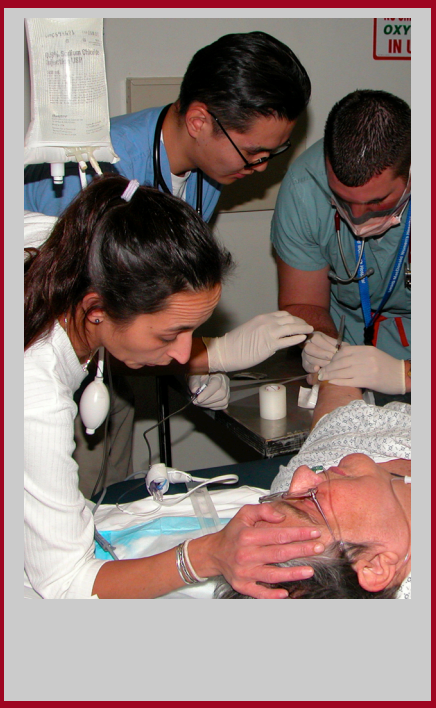
JULY 2014 VOLUME #1 ISSUE 1

EM CASE OF THE MONTH

BROWARD HEALTH MEDICAL CENTER DEPARTMENT OF EMERGENCY MEDICINE



Treatment off acute stroke requires a collaborative and seamless effort to ensure optimal outcomes.

EM CASE OF THE MONTH

EM Case of the Month is a monthly "pop quiz" for ED staff. The goal is to educate all ED personnel by sharing common pearls and pitfalls involving the care of ED patients. We intend on providing better patient care through better education our our nurses and staff.

EM Management of Hypertension in Acute Stroke

A patient presents with acute R sided hemiparesis and slurred speech that started 9 hours ago. His vital signs are HR 110 BP 190/105 RR 20 O2 98%. CT shows no hemorrhage. The ED physician diagnoses acute ischemic stroke and has determined that the patient is NOT a tPA candidate due to the time of onset. What is the most appropriate strategy in regards to his blood pressure?

A. Do not treat this blood pressure acutely in the ED. Consensus guidelines state that this blood pressure is acceptable for a patient that is NOT a tPA candidate.

B. Hypertension during a stroke is harmful to the ischemic brain. Give IV agents with a goal of 120/80.

C. Hypertension during a stroke is harmful to the ischemic brain. Give IV agents with a goal of lowering the BP by 15%.

D. Hypertension during a stroke is a sign of the cardiovascular system trying to perfuse brain through a clot. Maintain the BP at its current level-- even it requires vasopressors to do so.

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Take Home Points

- Ischemic stroke, NOT tPA candidate – treat hypertension if BP exceeds 220/120
- Ischemic Stroke, tPA candidate – treat hypertension if BP exceeds 185/110
- Hemorrhagic Stroke – treat hypertension with goal BP 160/90
- IV agents such as labetalol and nicardipine are considered first-line agents to acutely lower BP in stroke patients.

EM Management of Hypertension in Acute Stroke

The correct answer is A, do **not** treat this blood pressure. There is a surprising lack of good evidence in the literature on this topic. However, there are consensus statements and guidelines that should be followed in this case.

For patients with ischemic stroke who are NOT treated with thrombolytic therapy, most consensus guidelines recommend that blood pressure **not** be treated acutely **unless the hypertension is extreme (systolic blood pressure >220 mmHg or diastolic blood pressure >120 mmHg)**, or the patient has active ischemic coronary disease, heart failure, aortic dissection, hypertensive encephalopathy, acute renal failure, or pre-eclampsia/eclampsia. When treatment is indicated, *cautious* lowering of blood pressure by approximately 15 percent during the first 24 hours after stroke onset is suggested.

Treatment parameters are different in patients with acute ischemic stroke who are eligible for thrombolytic therapy. Before lytic therapy is started, treatment is recommended so that systolic blood pressure is **≤185 mmHg and diastolic blood pressure is ≤110 mmHg.** The blood pressure should be stabilized and maintained at or below 180/105 mmHg for at least 24 hours after thrombolytic treatment.

If acute antihypertensive therapy is needed, intravenous agents are generally used. Consensus guidelines suggest intravenous labetalol and nicardipine as first-line antihypertensive agents if pharmacologic therapy is necessary in the acute phase, since they allow rapid and safe titration to the goal blood pressure.

Please note that a more aggressive approach is recommended by most authorities in bleeds such as subarachnoid hemorrhage. Many consensus guidelines suggest a **SBP <160 mm Hg** as a reasonable goal.

At present, drug-induced hypertension is not recommended for the treatment of ischemic stroke outside the setting of a clinical trial.

IF YOU HAVE A TOPIC YOU WOULD LIKE TO SEE DISCUSSED IN A FUTURE EDITION, PLEASE SEND IT TO DR. JASON MANSOUR AT JMANSOURMD@GMAIL.COM

"An investment in knowledge pays the best interest." –Benjamin Franklin