NEUROSCIENCES

HC.STK.100.GD

APPROVED JUNE 2018

Practice Guidelines

Acute Stroke Practice Guidelines for Inpatient Management of Ischemic Stroke and Transient Ischemic Attack (TIA) for the Administration of tPA

Policy statement

OHSU Healthcare has adopted theses practice guidelines in order to delineate a consistent, evidence-based approach to treating the patient who presents with signs and symptoms consistent with acute stroke. Although these guidelines assist in guiding care, responsibility to determine appropriate care for each individual remains with provider themselves.

OUTCOMES / GOALS	1. Create a multi-disciplinary, evidence-based, approach to the management of acute stroke patients. 2. Patient plan of care to take into consideration the entire continuum of care from the emergency department through rehabilitation.

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ED OR STROKE TEAM PHYSICIAN	1. Inclusion criteria: a. Clinical diagnosis of ischemic stroke causing measurable neurological deficit. b. Time of symptom onset well established to be < 4.5 hours before treatment starts. Patients presenting between 3 and 4.5 hours have additional exclusion criteria. c. Age 18 years old. 2. Exclusion criteria: a. Significant head trauma or prior stroke in the previous 3 months. b. Symptoms suggest SAH. c. Arterial puncture at noncompressible site in previous 7 days. d. History of pervious intracranial hemorrhage. e. Intracranial neoplasm, AVM, or aneurysm. f. Recent intracranial or intraspinal surgery. g. Elevated blood pressure (systolic > 185 mm Hg or diastolic > 110 mm Hg). h. Active internal bleeding. i. Acute bleeding diathesis, including but not limited to: i. Platelet count < 100,000. ii. Heparin received within 48 hours resulting in abnormally elevated aPTT above the upper limit of normal. iii. Current use of direct thrombin inhibitors or direct factor Xa inhibitors with elevated sensitive laboratory tests (e.g. aPTT, INR, platelet count, ECT, TT, or appropriate factor XA activity assays). j. Blood glucose concentration < 50 mg/dl. k. For 3.5 – 4.5 hours after onset: all of the above, plus, i. Current us of oral anti-coagulants, even with INR less than or equal to 1.7. ii. NIHSS greater than 25. iii. Imaging evidence of more than one third of the MCA territory showing ischemic injury. 3. Relative Exclusion Criteria (Consider risk to benefit of intravenous tPA administration carefully if any of these relative contraindications is present): a. Only minor or rapidly improving stroke symptoms(clearing spontaneously and without disabling deficits). b. Pregnancy. c. Seizure at onset with postictal residual neurological impairments. d. Major surgery or serious trauma within previous 14 days. e. Recent gastrointestinal or urinary tract hemorrhage (within previous 21 days) . f. Recent acute myocardial infarction (STEMI within previous 3 months).
STROKE TEAM PHYSICIAN OR CLINICAL STROKE COORDINATOR WITH ASSISTANCE OF ED OR NSICU ATTENDING	1. Follow-up: Intracerebral hemorrhage management guidelines: a. If clinical suspicion of intracerebral hemorrhage (e.g., neurological deterioration, new headache, acute hypertension, nausea or vomiting) discontinue t-PA infusion. b. Obtain STAT CT scan for any neurological deterioration. c. STAT labs: INR, PTT, platelet count, fibrinogen, type and screen. d. Prepare for administration of 1 unit platelets (In Epic, one unit of platelet pheresis leukoreduced product equals 6 units of platelets).

NEUROSCIENCES ICU PHYSICIAN FOLLOW-UP: GENERAL PATIENTS MANAGEMENT	1. Admission to Neurosciences ICU for 24 hours (initiate post thrombolytic therapy orders vis NEU: Stroke/Rule out stroke/TIA Admission Orders or NEU: Stroke Post Thrombolytic Therapy. 2. No anti-coagulation or antiplatelet drugs during the infusion and for 24 hours post infusion. 3. Avoid nasogastric tubes, or invasive lines/procedures for 24 hours post infusion, if possible. 4. No intramuscular injections. 5. Head CT or MRI at 24 hours post infusion. 6. R.N. Follow-up: General Patient Management: a. Starting from beginning of IV tPA infusion: Neuro checks and vital signs every 15 minutes for 2 hours, every 30 minutes for 6 hours, every 1 hours for 16 hours, then per ICU standard of care. b. Avoid nasogastric tubes, or invasive lines/procedures for 24 hours post infusion, if possible. c. If the patient already has an invasive line upon arrival from another hospital (i.e. arterial or central), observe very carefully for bleeding at the site and apply pressure as needed. d. Maintain IVs already in place (restart only if necessary). e. No intramuscular injections. f. Observe for neuro changes and any sign/symptoms of intracerebral hemorrhage and document accordingly. g. Report any of the following immediately to the NSICU Team, pager 17014, and Stroke Team, pager 12600: neurological deterioration, sudden marked changes in vital signs, changes in level of consciousness, nausea, vomiting, diaphoresis, new headache. h. Observe for any signs of adverse drug reaction and document accordingly. i. Report any of the following immediately to the NSICU Team, pager 17014, and Stroke Team, pager 12600: gingival oozing, ecchymosis, petechiae, abdominal and/or flank pain, hemoptysis, hematemesis, shortness of breath, rales, rhonchi, arrhythmias. j. Assess IV/arterial puncture sites, urine, gums, skin, stool, emesis, etc. for bleeding. Report to NSICU Team and neurologist if this occurs. k. Monitor extremities for color, temperature, and sensation. l. Follow the Standard of Care for the Inpatient Management of Acute Ischemic Stroke Patient.
PHYSICIAN AND R.N. MAINTAIN BLOOD PRESSURE AS FOLLOWS:	1. Prior to t-PA treatment: a. For systolic > 185 or diastolic > 110, give labetalol 10-20 mg IV over 1-2 minutes, or b. Hydralazine 10-20 mg IV every 10 min, or c. May repeat one time or Nicardipine infusion, 5mg/hour, titrate up by 2.5 mg/hour at 5-15 minute intervals, maximum dose 15 mg/hour; when desired blood pressure is attained, adjust as needed to maintain desired blood pressure. d. If blood pressure does not decline and remains > 185/110 mm/Hg, do not administer t-PA 2. During or after t-PA treatment: a. Monitor blood pressure, Starting from the beginning of the IV t-PA infusion, check blood pressure every 15 minutes for 2 hours, than every 30 minutes for 6 hours, and then every hour for 16 hours. b. For systolic 180 or diastolic 105 give labetalol 10 mg IV over 1-2 minutes, Hydralazine 10-20 mg IV, or Nicardipine infusion, 5 mg/hour, titrate up by 2.5 mg/hour at 5-15 minute intervals, maximum dose 15 mg/hour.

Bibliography

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Kernan, W.N., et al. (2014). Guidelines for the Prevention of Stroke Patients with Stroke and Transient Ischemic Attack: A guideline for healthcare professionals form the AHA/ASA. Stroke, 2014; 45:2160-2236.

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Related forms and procedures

Dosing & Administration Information for t-PA in Acute Ischemic Stroke, HC.STK.101A
Acute Stroke Practice Guideline for Inpatient Management of Ischemic Stroke and Transient Ischemic Attack (TIA), HC.STK.102.HD
NEU: Stroke/Rule out stroke/TIA Admission Orders
NEU: Stroke Post Thrombolytic Therapy

Originator/author

OHSU Stroke Advisory Committee

Approved by

OHSU Stroke Advisory Committee (2007, 2008, 2011, 2012, 2013, 2014, 2017, 2018)

Reviewed by

ED Medical Director and ED Nursing Leadership (2011, 2014, 2017, 2018)
OHSU Stroke Center (2010, 2011, 2014, 2017, 2018)