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Pharmacist's Letter
Hospital

Guide Medication Therapy for Acute Ischemic Stroke

Top Takeaways

-*Recommend IV alteplase or tenecteplase for eligible patients within 4.5 hours of stroke onset or last known normal. Thrombolysis may be used up to 24 hours in select cases depending on brain imaging.*
-*Use IV labetalol, nicardipine, or clevidipine to lower BP below 185/110 mm Hg before thrombolysis. Afterward, keep systolic BP between 140 to 180 mm Hg and diastolic BP below 105 mm Hg.*
-*Start antiplatelets 24 to 48 hours after stroke onset, spacing at least 24 hours after thrombolytic doses.*

Every minute counts when it comes to **treating ischemic strokes**.

Know the latest guidance to help improve stroke outcomes.

Recommend IV thrombolysis for eligible patients within 4.5 hr of stroke onset or last known normal...or up to 24 hr in select cases with salvageable tissue based on brain perfusion imaging.

For thrombolysis, prior guidelines only recommended using IV alteplase. But now tenecteplase is an approved option with simple dosing (0.25 mg/kg IV push, max 25 mg).

Help your team weigh thrombolytic benefits and risks.

For example, a direct oral anticoagulant (DOAC) dose in the past 48 hr is a relative contraindication. Consider stroke severity, DOAC timing, reversal agent availability, kidney function, etc, to guide decisions.

Before giving thrombolytics, still advise lowering BP below 185/110 mm Hg. Use IV labetalol, nicardipine, or clevidipine for rapid control.

Watch for rare angioedema during and after thrombolytic therapy...especially if patients are on ACE inhibitors or ARBs.

Advise against adding on IV antithrombotics (eptifibatide, argatroban, etc) to improve thrombolysis...studies show no benefit.

After thrombolysis, monitor BP to ensure it's below 180/105 mm Hg during this phase. But avoid dropping systolic BP below 140 mm Hg...it doesn't improve outcomes and may lead to poor brain perfusion.

Similarly, monitor blood glucose and consider insulin therapy to keep readings between 140 and 180 mg/dL. Recommend against lower glucose goals (80 to 130 mg/dL, etc) due to hypoglycemia risks.

Then design an antiplatelet plan for secondary stroke prevention.

For example, generally start antiplatelet therapy 24 to 48 hr after stroke onset. But typically wait to start an antiplatelet at least 24 hr after thrombolysis...and verify head imaging has ruled out bleeding first.

See our *Antiplatelets for Recurrent Ischemic Stroke* chart for more details on med options and dosing, including dual antiplatelet therapy for certain cases (minor strokes withOUT thrombolysis, etc).

Then use our *Acute Ischemic Stroke Pharmacotherapy Checklist* to check for other key meds (statins, antihypertensives, etc)...and to avoid meds with less data.

For example, you may get questions about using minocycline after strokes, since it may have anti-inflammatory effects in the brain.

Share that early data suggest that minocycline 200 mg followed by 100 mg bid x 4 days may improve function scores...but more evidence is needed.

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Key References:

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-Lu Y, Guan L, Wu J, et al. Efficacy and safety of minocycline in patients with acute ischaemic stroke (EMPHASIS): a multicentre, double-blind, randomised controlled trial. Lancet. 2026 Feb 14;407(10529):679-688.

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