Delay in Administering Intravenous Tissue Plasminogen TENECTEPLASE (TNK) to Patients Presenting with Acute Ischemic Stroke in the Emergency Department

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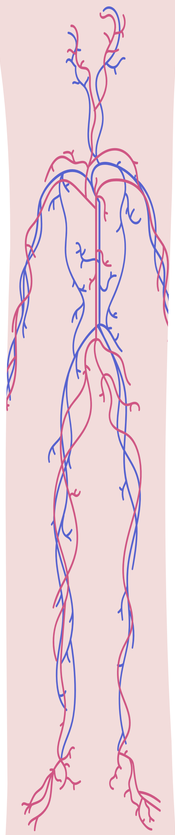
Background & Significance

- Acute Ischemic Stroke (AIS) is a major cause of death and disability.

Timely treatment significantly improves outcomes; Tenecteplase (TNK) is effective if given within 60 minutes of ED arrival.

- Less than 30% of U.S. patients receive thrombolytic therapy within recommended guidelines (Man et al., 2024).
- Delayed TNK administration leads to worse outcomes, prolonged ED stays, and higher costs
- .Key barriers to timely TNK use:
- Inefficient workflow Long triage and imaging times
- Delayed stroke diagnosisLack of standardized stroke protocols
- The AHA/ASA "Target: Stroke" initiative aims to improve AIS care delivery (Singh et al., 2023).
- Some institutions still struggle, while others use best practices



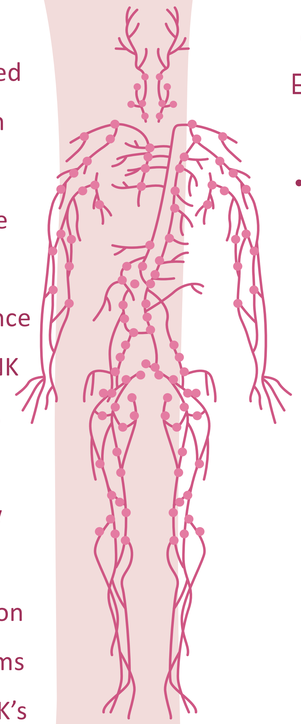
Methods

- Research framework: Based on PRISMA guidelines for systematic reviews and meta-analyses.
- Databases searched: PubMed, CINAHL, Cochrane Library, and Google Scholar
- .Over 200 articles found; only studies
- Relevant to the topic With appropriate study designs
- Published within the last 5 years were included.
- Note: While TNK's extended use window raises some safety concerns, it remains a safe and cost-effective option.
- Goal: To assess TNK as a timely and effective intervention for stroke management.

Evidence Summary

Tenecteplase (TNK) is an effective alternative to alteplase for AIS, favored for its single-bolus administration in EDs.

- Persistent delays in door-to-needle time are linked
- Inconsistent stroke protocol adherence
- Limited provider familiarity with TNK
- Delays in imaging and diagnostics
- Improving outcomes requires:
- Enhanced protocols and workflow
- Provider education
- Strong interprofessional collaboration
- Use of performance feedback systems
- Future research should focus on:TNK's effectiveness in diverse settings
- The role of AI and socioeconomic factors in stroke care delivery



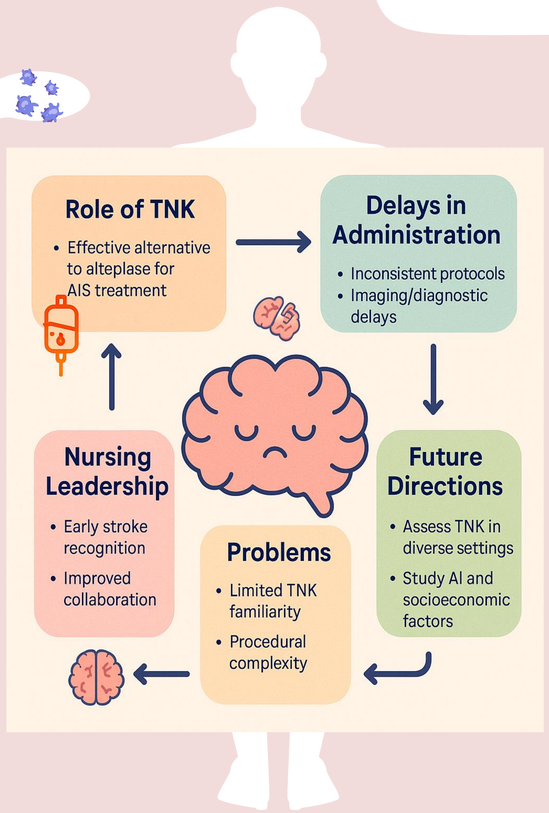
Implications for Nursing Practice and Role of the CNL

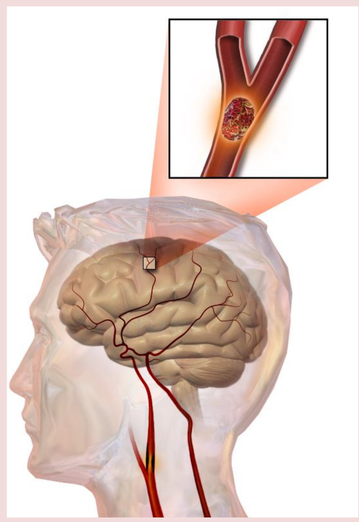
Delays in TNK administration for AIS in EDs highlight key practice gaps.

- Timely TNK use reduces morbidity and improves recovery.
- Barriers to timely care include procedural complexities, unfamiliarity with TNK, and communication issues.
- Nurses are critical in early stroke recognition and protocol activation.
- CNLs improve care by: Driving process improvements
- Enhancing communication and monitoring metrics
- Leading education and integrating AI in stroke triage

Summary & Conclusion

.Tenecteplase (TNK) is a promising alternative to alteplase for treating acute ischemic stroke (AIS) in emergency departments, thanks to its simple single-bolus administration. However, delays in door-to-needle times persist due to inconsistent stroke protocols, limited provider familiarity, and slow imaging processes. Improving these areas through streamlined protocols, provider education, and strong team collaboration can enhance treatment efficiency and outcomes. Future research should further evaluate TNK's effectiveness across diverse settings and examine the role of AI and socioeconomic factors in stroke care





References & Acknowledgements

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