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Melissa Freese

CentraCare Health, freesem@centracare.com

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Reduced Frequency Monitoring Post-Stroke Treatment

Melissa Freese MSN, RN, CNRN, SCRNP

St. Cloud Hospital, St. Cloud, Minnesota



Introduction

In 2020, the nation was faced with a pandemic that quickly depleted health care resources. Standards of care were reviewed to identify opportunities to reduce the burden on healthcare resources. One of the standards of care that was reviewed nationally and locally at the St. Cloud Hospital (SCH), was the post-alteplase/thrombectomy patient placement and monitoring.

The standard of care for the placement and monitoring of post-alteplase patients was established during the 1996 NINDS trial and has not been studied since. Very minimal literature is available on the standard of care for patient placement and monitoring post-thrombectomy.

Research Problem/Question

Is it safe to care for post-alteplase/thrombectomy patients in the NPCU or transfer out of ICU after four hours with reduced frequency of neurological assessments and vital signs?

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freeseem@centracare.com

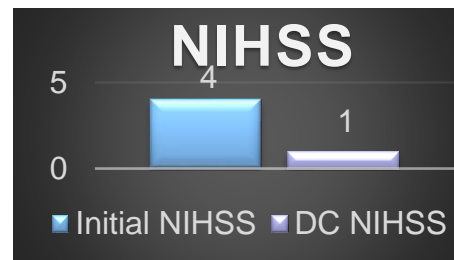
Methodology

- American Stroke Association (ASA) released a white paper on Temporary Emergency Guidelines stating it is feasible to care for stable post-alteplase/thrombectomy patients outside of the ICU.
- OPTIMIST safety trial concluded it is safe to use low-intensity monitoring protocol post-alteplase.
- Stroke Order Sets study concluded a streamlined approach for post-treatment strokes is safe.
- Using these studies as guidelines, SCH's post-alteplase and thrombectomy order sets were changed on December 15, 2020.
- The orders included the option for reduced frequency monitoring and direct placement in the NPCU or transfer out of ICU after four hours if hemodynamically and neurologically stable.

Analysis/Results

- As of April 16, 2021, 24 patients have had the reduced frequency monitoring protocol implemented.
- Twenty-two patients were admitted directly to NPCU and two were admitted directly to ICU then transferred out after 4 hours.
- One patient was an Inpatient Code Stroke.
- One patient had to transfer to ICU for hypoxemia and hypotension.
- None of the patients had complications related to alteplase (hemorrhage, angioedema, death).
- 17/24 (71%) had a confirmed ICD-10 Stroke diagnosis on discharge.
- Median NIHSS at the time of treatment was 4 and at discharge was 1 (see graph).

Patient Care [191793]
 Vital signs and neurological assessment (SCH) [754094]
 Vital signs and neurological assessment every 15 minutes for 2 hours, then q 1/2 hour for 6 hours, then q 1 hour for 16 hours then every 4 hours. (requires ICU admission initialiv) [NUR35N10107]
 Reduced Frequency - Vital signs and neurological assessment every 30 minutes for 2 hours, then q 1 hour for 8 hours, then q 2 hour for 14 hours then every 4 hours. [NUR35N10107]



Conclusions/Implications

Based on the initial findings, it can be concluded that a subset of patients post-alteplase can be safely cared for with reduced frequency monitoring outside of the ICU setting or transferred out after 4 hours if they are stable, therefore reducing the burden on healthcare resources.

It is recommended to continue the protocol and analyze the data to determine if this protocol can be implemented permanently outside of the pandemic.

Study limitations: The aim of the study was to include thrombectomy patients, but there were no eligible patients. It is anticipated that continuing the study will provide the opportunity to include these patients, which will provide more data on the safety of implementing the protocol in this population.

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