The First 24 Hours: Stroke/Transient Ischemic Attack Patients with Cardiac Rhythm Changes

MacNeal Hospital Primary Stroke Center
Berwyn, Illinois
Cheryl Jastrzebski MSN, RN, CNRN, CMSRN cjastreb@macneal.com
Erika Hernandez BSN, RN, CVRN, CMSRN ehernand@macneal.com

Abstract

Telemetry monitoring for the first 24-hours of admission is the standard of care for stroke, Transient Ischemic Attack (TIA) and rule out stroke patients. There is little research to substantiate this practice. This project examined the impact of telemetry monitoring on care of these patients. From November 2012 through February 2014, researchers reviewed 300 patients' 24-hour telemetry records to determine if the patient experienced a cardiac rhythm change or event. Researchers reviewed each patient's chart for documentation of a cardiac event, communication about the event, and orders to treat an event. We found that 24 hour cardiac telemetry monitoring was useful to help nurses identify arrhythmias for newly diagnosed stroke, TIA, and rule out stroke patients, and the data supports the necessity. Atrial fibrillation was the most common arrhythmia out of the patients that had an arrhythmia. Identification of atrial fibrillation is important, since it is a risk factor for stroke.

Hypothesis

Null Hypothesis

Cardiac telemetry monitoring does not impact the care for patients with a Stroke or TIA diagnosis.

Participants

Principal Investigator
- Cheryl Jastrzebski MSN, RN, CNRN, CMSRN Stroke Program Coordinator

Co-Investigators
- Erika Hernandez BSN, RN, CVRN, CMSRN Cardiovascular Coordinator
- Susan Nadis MD Neurologist
- Robert Lichtenberg MD Cardiologist
- Theresa Hall BSN, RN, CMSRN
- Florence Hernandez BA, RN, CMSRN

Staff Nurses on the
- Stroke Unit
- Intensive Care Unit

Methods

- Stroke unit nurses completed a mandatory interdisciplinary continuing education program entitled *Telemetry for Stroke Patients "Refresher"* prior to the study.

Telemetry for Stroke Patients "Refresher" Objectives

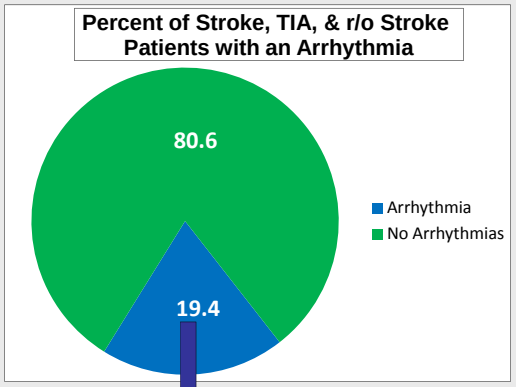
1. Review rhythm disorders in stroke or head trauma victims.
2. Recognize and measure prolonged QT.
3. Review heart blocks.
4. Identify atrial/ventricular arrhythmias.
5. Review of yellow and red telemetry alarms.
6. Return demonstration of alarm review data on Philips telemetry monitor.

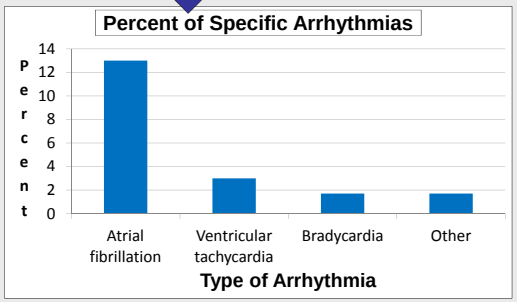
- 300 consecutive patients admitted for stroke, TIA or ruled out for stroke were enrolled; patients with a hemorrhagic stroke diagnosis were excluded.
- November 2012 through February 2014, nurses kept a log of acute stroke, TIA , and rule out stroke patients.
- Nurses reviewed their patients' telemetry and recorded their findings including abnormal rhythm, physician contact and any intervention ordered.
- Each patient's 24 hour telemetry data was saved.
- Cardiology team, cardiovascular coordinator and staff cardiologist, reviewed each patient's 24 hour telemetry electronic records to determine if the patient experienced a cardiac rhythm change or event.
- Nursing chart documentation was retrospectively reviewed for the nurse's identification of a cardiac event and nurse's communication to the physician about the patient's cardiac event.

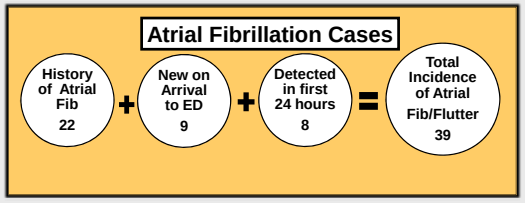
Erika Hernandez RN, Cardiovascular Coordinator, reviewing a patient's 24 hour telemetry monitoring data.

Results

- This study's Null Hypothesis was rejected.
- Cardiac telemetry monitoring is beneficial in identifying arrhythmias in stroke, TIA and rule out stroke patients.
- Identification of atrial fibrillation is important, since atrial fibrillation is a risk factor for stroke.





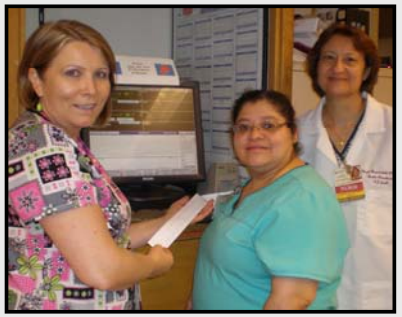


Atrial fibrillation was found in 39/300 patients
- Nurses identified rhythm changes in all 8 patients who had newly identified Atrial fibrillation and notified the patient's physician.

Bradycardia & **Ventricular tachycardia**
- Accounted for 4.7% of arrhythmias

Conclusion

- 24 hour cardiac telemetry monitoring is useful to help nurses identify arrhythmias for newly diagnosed stroke, TIA and rule out stroke patients.
- The educational class, Telemetry for Stroke Patients "Refresher," provided an organized method for arrhythmia detection.
- Atrial fibrillation was the most common arrhythmia.
- Telemetry monitoring when analyzed by educated nurses can improve patient outcomes.



Barb RN, clinical nurse, being mentored by Florence Hernandez RN, co-investigator, and Cheryl Jastrzebski RN, Stroke Program Coordinator, to save telemetry data.

Implications for Practice

- Data supports the necessity of 24 hour cardiac rhythm monitoring after admission for stroke, TIA and rule out stroke patients.
- Telemetry monitoring, when used in conjunction with a diagnosis and evaluated by educated nurses, can improve patient outcomes.
- The recommended telemetry monitoring by the American Heart Association/American Stroke Association is validated by this study.

References

Eljovich, L., Josephson, A., Fung, G., & Smith, W. (2009). Intermittent atrial fibrillation may account for a large proportion of otherwise cryptogenic stroke: A study of 30-day cardiac event monitors. *Journal of Stroke and Cerebrovascular Diseases*,18(3), 185-189.
Jauch, E., Savor, J., Adams, H., Bruno A., Conner, J., Demaerschalk, B., et al. (2013). Guidelines for the early management of adults with acute ischemic stroke: A guideline for healthcare professionals for healthcare professionals from the AHA/ASA. *Stroke*, 44, 870-947.
Kamel, H., Hedge, M, Johnson, D., Gage, B., Johnston, C. (2011). Cost-effectiveness of outpatient cardiac monitoring to detect atrial fibrillation after ischemic stroke. *Stroke*, 41, 1514-1520.