Background

- The Adult Post Anesthesia Care Unit (PACU) at UMMC recovers variety of post-operative patients each day.
- Within a 12 month period, 2 patients exhibited signs of stroke that were not recognized in a timely manner.
- Incidence of perioperative stroke for non-cardiac, non-neurological surgery patients: 1 per 1000 cases, 8 fold increase in mortality.
- Stroke symptoms can be easily masked due to confounding factors of anesthesia and frequent opioid administration.
- Identification of increased risk for perioperative stroke can alert the nurse to escalate neurological monitoring post-operatively.
- Early detection of stroke allows for intervention. IV TPA contraindicated in post-surgical patients, but endovascular clot retrieval is an available and effective treatment in this population.
- No screening tool for perioperative stroke has been found in the literature.

Plan

- Assembled multi-disciplinary team: PACU, Neurology, the Brain Attack Team, Quality Improvement.
- Completed a literature review.
- Purpose: Create a screening tool for increased risk for perioperative stroke to escalate neurological monitoring post-operatively.
- Decrease time to intervention for strokes in PACU: time= brain
- Based on the literature the following screening tool was developed:

Do

- Created a screening tool to determine increased risk for perioperative stroke.
- Collected pre-data to determine prevalence in UMMC surgical population.
- Pilot: July 6, 2015 to October 2, 2015, Screened patients in PACU from the operating room.
- Escalated neuro assessments and monitoring for patients at risk on arrival to the PACU and every two hours until transfer or 24 hours post-operatively.

Study

- 895 patients were screened for perioperative stroke risk.
- 324 met screening criteria to be considered at risk.
- Initial neurological assessments were completed in 68.5%.
- Change in neurological exams noted in 1.2%.
- Post operative imaging was completed in 1.9%.
- Two patients (0.6%) had a stroke.
- Over 60% of at-risk patients stayed in the PACU at least 24 hours.

Act

- Pilot protocol resulted in the timely recognition of two patients with perioperative stroke, which is critical if the patient is to be considered for endovascular clot retrieval.
- Ideally, identification of increased risk would occur pre-operatively.
- Future planning: Consider leveraging the electronic health record to screen patients and alert providers for at-risk patients akin to STOP-BANG for sleep apnea.
- Future planning: Implement PACU protocols for at risk patients to increase neurological monitoring.
- Future planning: Collaborate with surgical in-patient units to consider continuous neurological assessments for the first 24 hours.

Acknowledgements

The Adult PACU Nursing Staff

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References