MONITORING

Refer to the physiologic monitoring policy used in your organization

2013 Canadian Best Practice Recommendations for Stroke Care: Hyperacute Stroke Care.

Summary of Evidence, Cardiovascular Investigations

An electrocardiogram (ECG) should be performed immediately for all patients with stroke and TIA presenting to the emergency department for the potential to identify arrhythmias. Atrial fibrillation (AF) is commonly diagnosed post-stroke, and is of particular concern due to its role in forming emboli. Immediate testing is important: Suissa et al. found that the greatest odds of AF detection were within the first 24 hours after stroke (OR 9.82; 95% CI 3.01 to 32.07). It is important to note, however, that an initial ECG is often not enough to detect all cases of AF. In the same study, it was found that ECG monitoring beyond the baseline assessment resulted in the identification of additional cases of AF in 2.3%-14.9% of the population (Suissa et al., 2013). The greatest number of new cases was identified with continual monitoring in an intensive stroke unit (Suissa et al., 2013). For sites not equipped with continuous monitoring equipment, the use of serial ECG assessments is an effective means of diagnosing AF (Douen et al., 2008). There was a statistically significantly greater percentage of patients diagnosed with AF as a result of serial ECG assessments within 72 hours of stroke compared to the percentage of patients diagnosed with AF at baseline (P=0.01) in this study (Douen et al., 2008).

A Holter monitor may offer additional sensitivity to identify cases of AF (Douen et al., 2008). A 2007 systematic review found that the use of a Holter monitor for variable durations of time following acute stroke identified AF in approximately 5% of patients (Liao et al., 2007). The use of a Holter monitor as an adjunct to serial ECGs offers the greatest ability to detect AF (Douen et al., 2008).

Cardiovascular investigations

ECG-following initial ECG, serial ECG's should be done (i.e., daily) over the first 72 hours post stroke to detect atrial fibrillation and other acute arrhythmias.

Cardiac Monitoring-to detect atrial fibrillation and other arrhythmias. Patients can have paroxysmal atrial fibrillation.

Holter Monitors-during hospitalization may be considered in order to detect atrial fibrillation.

Echocardiograms-either 2D or transesophageal, should be considered for patients suspected to have embolic stroke and normal neurovascular imaging in whom there no contraindications to anticoagulation.

Loop Recorders-14 to 28 day loop recorders can be used to detect arrhythmias over a longer period of time. These may detect paroxysmal atrial fibrillation.

References

Canadian Best Practice Recommendations for Stroke Care (2013). Canadian Stroke Network and Heart and Stroke Foundation of Canada. Ottawa, Ontario Canada.

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Douen, A.G., Pageau, N. & Medic, S. (2008). Serial electrocardiographic assessments significantly improve detection of atrial fibrillation 2.6-fold in patients with acute stroke. *Stroke,* 39, 490-482.