Background

A stroke is defined as a clinical syndrome consisting of rapidly developing clinical signs of a focal neurological deficit, lasting more than 24 hours and of vascular origin[1].

Over 80,000 people are hospitalised with an acute stroke each year in England and Wales[2]. The burden of stroke on patients and the NHS is significant: in the UK stroke is the third leading cause of disability[3] and accounts for 11% of all deaths[4]

There has been much recent evidence to show the benefits of thrombolysis for functional outcomes when administered within 4.5 hours of stroke onset[5]. As a result of this, thrombolysis with alteplase is now a well-established treatment for acute ischaemic stroke and is given to 1 in 9 patients presenting with acute stroke in the UK[6]. Recent changes to the Royal College of Physicians (RCP) guidelines promote recommendations that reflect this evidence.

In this audit, we will assess our management of acute stroke patients against the best practice recommendations from these new NICE-accredited RCP guidelines for stroke care (Oct 16).

Aims + Objectives

To ensure that:
1. All patients with suspected acute stroke receive brain imaging within 1 hour of arrival at St Mary’s.
2. Patients diagnosed with acute ischaemic stroke have been correctly identified as candidates for thrombolysis and have their treatment started within the recommended time from symptom onset, for example:
   - Within 3 hours of symptom onset regardless of age or stroke severity.
   - Between 3 and 4.5 hours of symptom onset if under the age of 85.
3. Acute stroke patients have their clinical status closely monitored and that their physiological parameters are recorded and managed appropriately along with their hydration and nutritional status.
4. Patients with acute stroke have their swallowing formally assessed within 4 hours of arrival at hospital.
5. Patients with immobility after a stroke are offered Intermittent Pneumatic Compression (IPC) within 3 days of admission.
6. These patients receive treatment with atorvastatin (20-80mg) as soon as they are able to swallow medication safely.

Method

This local audit forms a retrospective study of all the patients thrombolysed following an acute presentation of stroke. Data was collected from hospital admissions over a 1 year period (October 2015 – September 2016). The study was conducted at St Mary’s Hospital Island of Wight.

16 patients were thrombolysed during this period. No patients were excluded from the data group collected.

Data was collected by the Stroke Unit house officers individually. Patient notes from their time of admission were analysed along with information from the ECL and JAC computer systems. Any ambiguities in individual cases were then discussed with the other members of the audit team.

Results

100% of patients received a CT scan within 1 hour of admission to hospital.

2 of the 16 patients were Thrombolysed outside of the 4.5h cut-off window (see Chart 1).

87.5% of patients had all physiological parameters monitored post-thrombolysis. One patient did not have their BMs monitored and another did not have fluid status monitoring (See Chart 2). However only 62.5% had an appropriate oxygen prescription. Patients were often prescribed oxygen despite having saturations >95%.

100% of thrombolysed patients had a hydration assessment and a Manhatten Universal Screening Tool (MUST) visible in their notes.

Only 4 thrombolysed patients had a documented initial swallow screen. Two of these were outside of the 4 hours timeframe 12.5% compliance.

84.3% of patients had appropriate Venous Thromboembolism (VTE) prophylaxis with IPCs (See Chart 3).

41.7% of patients were prescribed atorvastatin post-thrombolysis.

Discussion

Lessons Learnt

The data shows that all patients being admitted with a suspected stroke are getting appropriate imaging in a timely manner. Furthermore, thrombolysis is generally being started within an appropriate timeframe and these patients are being monitored well.

Supplemental oxygen is not being prescribed appropriately with some patients receiving oxygen regardless of their oxygen saturations.

Initial swallowing screens (within 4 hours of admission) are not being documented.

The use of IPCs and prescription of atorvastatin is not routinely being done and our practice needs to change to reflect the current guidelines.

We note that over the 12 month period relatively few patients have been thrombolysed at this hospital.

It is also worth noting that the RCP guidelines were produced being aware that RCP guidelines are produced being aware that RCP guidelines do not include stroke.

Adaptations

We are modifying the stroke and thrombolysis proforma to alert healthcare professionals to the necessity of documenting a patient’s swallowing status.

The prescription of atorvastatin should now become commonplace in ischaemic stroke to reflect the new guidelines – Education of medical staff and inclusion in our thrombolysis proforma should rectify this.

As long as there are no contraindications, oxygen should be prescribed on the hospitals e-prescribing JAC system for thrombolysis patients (e.g. when oxygen saturations drop below 95%).

We have incorporated prescription of IPCs into thrombolysis and stroke proforma.

A re-audit is advised in one year’s time to assess whether these recommendations have been acted upon.

References

6) Figures 1 and 2 Photos taken by Dr C. Stewart.

Contact

Dr C Stewart
St Mary’s Hospital IOW NHS Foundation Trust
Email: Charles.Stewart@iow.nhs.uk

Isle of Wight
NHS
St Mary’s Hospital Stroke Unit, Isle Of Wight