

KINGSTON HOSPITAL NHS FOUNDATION TRUST

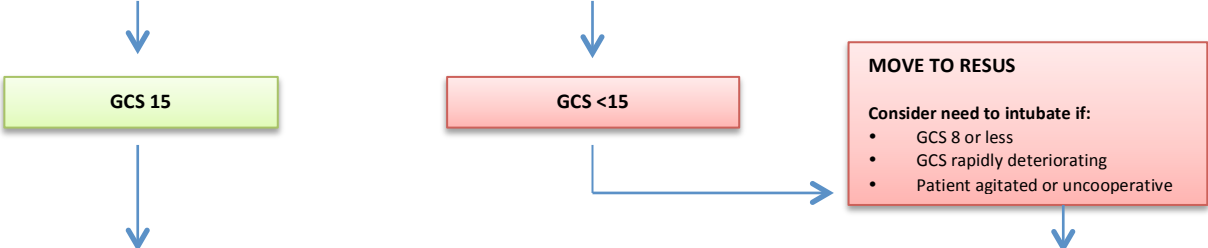
Clinical Guideline

Lead Clinician for Guideline: Dr Gavin Wilson Discipline: Emergency Medicine Date of Guideline: June 2016 Review Date: 01/06/2020 or following new national clinical guidelines Audit date:
Topic: Sub-arachnoid haemorrhage
Rationale: Need for unified approach to management following gap analysis of national quality standards
Aims and Objectives: Unify (with evidence base) approach to management of patients presenting with suspected or proven sub-arachnoid haemorrhage
Guideline: Management of sub-arachnoid haemorrhage
Evidence Base: current national guidelines, international studies
Method of Guideline Development: Written with local practice in mind and incorporating current national guidance.
Consultation: Clinical leads in Acute Medicine, Clinical Radiology and Emergency Medicine Consultants For ratification at the Clinical Effectiveness Committee
Implementation: Hard copies in clinical service areas, available on trust intranet and ED departmental website
Training Plan: N/A
Outcome Measurements and Audit Criteria: adherence to Guideline
Assessment of Competence: N/A

The Management of Subarachnoid Haemorrhage

<p>Risk factors for aneurysm rupture</p> <ul style="list-style-type: none"> Smoking and alcohol Age 20-65 most common Hypertension (BP 160/100 high risk) Coagulopathy does not cause rupture, but is associated with poor outcome <p>Causes/associations</p> <ul style="list-style-type: none"> Berry aneurysm (80%) AVM Polycystic kidney disease SLE Moyamoya disease Syndromes; Marfan's, Ehlers-Danlos, Osler-weber-Rendu, Klippel-trenaunay-Weber Metastatic tumours (rare) Vasculitis (very rare) Fungal/bacterial infections (very rare) 	<p>Prodromal events</p> <p>Signs and symptoms precede aneurysm rupture in up to 50% of cases. These may be subtle. They may be caused by sentinel leaks, mass effect of the aneurysm (focal neurology) or emboli (TIA).</p> <ul style="list-style-type: none"> Headache (50%); sudden, severe. May be associated with nausea, vomiting, photophobia, malaise, neck pain Dizziness (10%) Orbital pain (7%); usually secondary to mass effect Sensory or motor disturbance (6%), including III cranial nerve palsy (dilated pupil, 'down and out' gaze) Diplopia (4%) Visual loss (4%) Seizures (4%) Ptosis (3%) Bruits (3%) Dysphasia (2%) 	<p>Signs and symptoms of SAH</p> <p>Headache: sudden onset, 'worst ever', maximum intensity within 5 minutes. Up to 70% occur with exertion, including sexual intercourse.</p> <p>Meningism: neck pain, photophobia and vomiting</p> <p>Sudden LOC: occurs in 45%, usually transient</p> <p>Seizure; occurs in 10-25% of cases</p> <p>Subhyaloid retinal haemorrhages; 25% of cases</p> <p>Reduced GCS and/or focal neurology: 25%</p>
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Acute severe headache suggestive of SAH
Insert IV cannula, take bloods (FBC, clotting, U&E's, LFT's, VBG, bone profile), ECG, assess GCS



CT Brain
To be completed within 60 minutes of request

CT Normal
If completed within 6 hours of onset of headache

SAH is unlikely

Modern 3rd generation CT scanners are sensitive in picking up SAH within 6 hours of onset (risk of missed SAH <1%)

Discuss with senior prior to discharge
If good history and one of the following risk factors is present (age >40 years, vomited at least once, history of LOC, diastolic BP >100mmHg, neck pain or stiffness): consider admission for LP under medical team and discuss with neurosurgery.

Otherwise discharge with clinical advice

CT Normal
If completed more than 6 hours after the onset of headache

SAH possible

Patient should be referred to the medical team for LP and admission

Note:
LP IS HIGH RISK IF GCS <15 - discuss with consultant prior to proceeding.

LP to be carried out at least 12 hours post onset of symptoms. Paired serum bilirubin also needed.

CT demonstrates SAH
(If CT demonstrates alternative diagnosis, exit pathway and manage as appropriate)

SAH confirmed

Transfer CT scan via IEP to St George's Hospital

Refer to Neurosurgery at St George's Hospital via www.referapatient.org AND discuss via telephone.

Management principles:

- Consider the need for intubation
- Continuous ECG an hourly GCS, focal deficits, BP and temperature monitoring
- Maintenance fluids with 0.9% Normal saline
- Treat hyperglycaemia greater than 10mmol
- BP control: aim for systolic blood pressure (sBP) <180mmHg, but keep sBP greater than 120mmHg.

BP may be already achieved by administering analgesia and nimlodipine.

If BP not well controlled despite the above interventions, consider metoprolol 2.5mg slow IV boluses to max 10mg OR GTN infusion. Aim for a modest (i.e. 25%) reduction in sBP.

REFERENCES

- European Stroke Organisation guidelines for the Management of Intracranial aneurysms and Subarachnoid Haemorrhage. Cerebrovasc Dis 2013;35:93-112
- Sensitivity of CT performed within 6 hours of onset of headache for diagnosis of SAH: prospect cohort study. BMJ 2011; 343:4277
- Non-traumatic SAH in the setting of negative cranial CT results; external validation of a clinical and imaging prediction rule. Annals Emerg Med 2013, 62;1-10
- Sensitivity of propose clinical decision rules for SAH; an external validation study. Emerg Med Australasia, 2014;26:556-560