GUIDELINE FOR MANAGEMENT OF ACUTE INTRACEREBRAL HAEMORRHAGE

TARGET AUDIENCE	Secondary Care
PATIENT GROUP	**Adults presenting with symptoms of acute stroke, whose imaging confirms intracerebral haemorrhage (ICH)** Subarachnoid haemorrhage, subdural/extradural haematoma, traumatic intracerebral haemorrhage are NOT covered by this guideline

Clinical Guidelines Summary

SITUATION	ACTION
Patient presents with acute stroke	Pre-alert – contact stroke nurse on DECT phone Assess in ED: GCS, NIHSS, BP, NEWS, ECG, Swallow screen Baseline function/frailty Urgent CT brain
CT scan shows ICH:	
Anticoagulation	Check clotting and platelets Drug history – warfarin, factor Xa inhibitor (apixaban/ rivaroxaban/ edoxaban), dabigatran, antiplatelets See guideline for specific treatment
Blood Pressure	For patients presenting within 6 hours from onset and those with extremely high BP contact the stroke consultant on call for advice Treat other causes of ↑BP – pain, urinary retention, nausea Safe to continue pre-stroke anti-hypertensives
Neurosurgery	Refer urgently if: (any or all of) Posterior fossa haematoma Intraventricular haemorrhage with GCS ≤ 8 Hydrocephalus
Additional imaging	See guideline for detail
Place of Care	Admit to stroke unit Thromboprophylaxis – intermittent pneumatic compression
Manage Complications	Seizures – no evidence for prophylactic anticonvulsants Treat seizures if occur Monitor GCS and neurology (NIHSS) – if deteriorates re-CT urgently
Anticipatory Care	Some patients may make a good recovery after ICH- even relatively large ICHs. Do not assume the worst too early

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Who is this guidance intended for?

This guidance is intended for use in ED, medical receiving, medical wards, high dependency units, stroke units, in NHSL. This guideline covers patients presenting with an acute stroke syndrome, whose imaging confirms intracerebral haemorrhage.

This guideline **does not** cover patients presenting with subarachnoid haemorrhage, subdural haemorrhage, extradural haemorrhage, traumatic intracerebral haemorrhage, or ICH secondary to another cause (e.g. venous sinus thrombosis, tumour, post thrombolysis).

Presentation

Patient presents with acute stroke syndrome. Pre-alert by ambulance. ED contact stroke nurse via dedicated DECT phone to come to ED to assess:

Hairmyres – DECT 5138 (external dial 01355 585138)

Wishaw - DECT number 6892 (external dial 01698 366892)

Monklands – DECT 404412 (external dial 01698 753412)

Assess in ED: GCS, NIHSS, BP, NEWS, ECG, Swallow screen. Establish pre stroke function, using clinical frailty scale (CFS) or modified Rankin. This may be helpful in determining prognosis, and making decisions regarding neurosurgery or HDU/ITU. Check medication history including anticoagulation.

Urgent CT brain

CT scan

Features to note on CT scan are haematoma size/volume, and location (superficial/lobar, deep, posterior fossa). The presence of intraventricular extension and presence or absence of hydrocephalus should be assessed.

Immediate management

Anticoagulation Reversal

Warfarin: For patients taking warfarin, check urgent INR. Warfarin should be reversed with **prothrombin concentrate and/or vitamin K** according to local haematology guidelines (guidance on reverse of warfarin chart and from blood bank). Patients on warfarin for prosthetic heart valve should be urgently discussed with cardiology and stroke on call prior to reversing warfarin.

Factor Xa inhibitor: Apixaban/ Edoxaban/ Rivaroxaban: Suspend Factor Xa inhibitor. If reversal is needed give prothrombin concentrate advice available from haematology on call). Andexanet alfa should not be given, there is insufficient evidence for cost effectiveness or safety.

Dabigatran: Consider use of idarucizumab. Check thrombin time urgently. Seek advice from haematology on call. Note there is a thrombotic risk related to reversing dabigatran (related to their prior risk and indication for being on it).

Antiplatelets: There is no evidence to support routine use of platelet transfusion - may be harmful. Suspend antiplatelets. Patients with specific indication to continue, e.g. recent coronary stent, should be discussed on individual basis with relevant specialty eg cardiology, and stroke consultant.

Coagulopathy/severe thrombocytopenia – discuss with Haematology on call

Blood Pressure

For patients presenting within 6 hours of onset with systolic BP >140 mmHg consider BP lowering to a target of systolic BP 140mmHg. Avoid fall in BP >60mmHg, avoid systolic BP <130mmHg. Contact stroke consultant on call for advice.

Evidence of benefit exists when BP lowering within 6 hours from onset is undertaken as part of a bundle of physiological management.

Look for and treat other causes of hypertension – pain, urinary retention, nausea.

If patients are able to swallow it is safe to continue their pre-stroke antihypertensives.

Neurosurgery

Patients with the following should be referred urgently to neurosurgery:

- Posterior fossa haematoma
- Intraventricular haemorrhage with GCS ≤ 8
- Hydrocephalus

According to National Guidelines (NICE 2019), people with the following rarely require surgery and should be managed medically initially:

- GCS motor score of 6,
- alert,
- no suspicion of an underlying neurovascular or malignant lesion,
- no pre-existing ventriculoperitoneal shunt,
- small deep haematoma on CT,
- lobar ICH without hydrocephalusand neurologically stable,
- GCS< 8 - unless this is because of hydrocephalus

Those who do not require neurosurgery should be observed (see Management of Complications below), and consider re-scan and referring if the above parameters change.

Some patients will not be suitable for neurosurgical intervention based on pre stroke morbidity or frailty or the patient's wishes. For these patients consideration should be given to appropriate anticipatory care planning, and avoid repeating imaging if it will not change their management.

Additional Imaging

All patients should have plain CT brain and CTA aortic arch and carotids (as per acute stroke imaging).

Additional imaging may be requested acutely if it will help determine an underlying cause. Intracranial CT angiogram should only be undertaken following discussion with neurosurgery and radiology.

Repeat CT brain should be undertaken urgently for patients whose clinical condition has changed and may now require neurosurgery based on the above criteria.

If cerebral venous sinus thrombosis suspected as cause of ICH urgent CT venogram should be undertaken.

Place of Care

Patients with acute ICH should be looked after in an acute stroke unit. Attention should be paid to supportive care, including thromboprophylaxis with intermittent pneumatic compression, assessing swallow, ensuring adequate hydration, and management of co-morbidities.

Management of Complications

Monitor GCS and NIHSS. Deteriorating conscious level or worsening neurological deficit requires prompt reassessment, and consideration of repeat imaging and/or discussion with neurosurgery (see above).

There is no evidence to support routine use of anticonvulsants for seizure prophylaxis. Seizures occurring acutely should be managed appropriately. There is no specific guidance for how to manage seizures in the context of acute ICH, and they should be managed as you would usually.

Points to consider

Some patients may make a good recovery after ICH- even relatively large ICH. Do not assume the worst too early.

Some will have an ICH that is not survivable (due to the ICH or patient factors such as premorbid frailty/comorbidity). Ensure adequate discussion with patient and/or next of kin, ensure symptoms are anticipated and appropriately treated (pain, seizures, secretions, nausea and vomiting).

References

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Appendices

Governance information for Guidance document

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Distribution	

CHANGE RECORD

Date	**Lead Author**	**Change**	**Version No.**
		e.g. Review, revise and update of policy in line with contemporary professional structures and practice	1
			2
			3
		.	4
			5

2.You can include additional appendices with complimentary information that doesn't fit into the main text of your guideline, but is crucial and supports its understanding.

e.g. supporting documents for implementation of guideline, patient information, specific monitoring requirements for secondary and primary care clinicians, dosing regimen/considerations according to weight and/or creatinine clearance

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