

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

A Clinical Guideline

For Use in:	AMU, Accident and emergency and all other clinical areas
By:	All Medical staff
For:	Management of patients with suspected pituitary tumours
Division responsible for document:	Medical
Key words:	Pituitary tumour, apoplexy, pituitary surgery, neurosurgery, headache, hyponatraemia,
Name of document author:	Sondra Gorick
Job title of document author:	Endocrine Specialist Nurse
Name of document author's Line Manager:	Dr Rupa Ahluwalia
Job title of author's Line Manager:	Consultant Endocrinologist, Clinical Lead for Endocrinology
Supported by:	Endocrinology Consultants Dr Jan Saada, Consultant Neuroradiologist Dr Paddy Wilson, Consultant Radiology Dr Geoff Cochius, Consultant Neurology Mr Colin Jones, Consultant Ophthalmology
Assessed and approved by the:	Clinical Guidelines Assessment Panel (CGAP) If approved by committee or Governance Lead Chair's Action; tick here <input checked="" type="checkbox"/>
Date of approval:	07/01/2020
Ratified by or reported as approved to (if applicable):	Clinical Safety and Effectiveness Sub-Board
To be reviewed before: This document remains current after this date but will be under review	07/01/2023
To be reviewed by:	Sondra Gorick
Reference and / or Trust Docs ID No:	9098
Version No:	4
Description of changes:	Reviewed and updated
Compliance links: (is there any NICE related to guidance)	None



Our Vision
To provide every patient
with the care we want
for those we love the most

Norfolk and Norwich University Hospitals **NHS**

NHS Foundation Trust

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

If Yes - does the strategy/policy deviate from the recommendations of NICE? If so why?	N/A
---	-----

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

Overview

*After bloods, but do
not wait for results*

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

Most patients will need discussion with the specialist pituitary neurosurgical team in London available directly via the National hospital switchboard 0845 155 5000 or 0203 456 7890, bleep 8100.

*Prolactin levels are required urgently and before discussion with the neurosurgical team for stable patients.
Out of hours this will be discussed by endocrinology with the on-call consultant biochemist.
In normal working hours, please telephone lab and mark request as urgent on ICE.*

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

Quick reference guideline/s

Pituitary disease suspected:	<ul style="list-style-type: none"> • Inform NNUH endocrinology team immediately. • Emergency (and routine) pituitary neurosurgical care is provided by National Hospital for Neurology and Neurosurgery (not Addenbrooke's) but contact should always be to endocrinology first. • Specialist Trainees are available on dect phone 2763 or on call endocrine consultant 4512 between 9am - 5pm Monday to Friday, but outside of these hours, please contact the on call endocrinology consultant directly via switchboard – available 24/7.
Take a thorough history	<ul style="list-style-type: none"> • In particular of any weight loss, dizziness, nausea, headaches, confusion, visual disturbance or galactorrhoea. • Check whether the patient is known to have pituitary disease, and if they have had previous or recent pituitary surgery – if so document when and where was this done
Examine the patient carefully	<ul style="list-style-type: none"> • Look for signs of meningism, visual field loss, raised intracranial pressure (including fundoscopy), volume status and neurological signs.
Take bloods	<ul style="list-style-type: none"> • For urea and electrolytes, full blood count, glucose, cortisol and prolactin urgently. • Hyponatraemia, hyperkalaemia and hypoglycaemia are common with pituitary tumours, or apoplexy. Hyponatraemia is also common following pituitary surgery
Arrange imaging	<ul style="list-style-type: none"> • Request immediate chest X-ray and ECG. CT head should also be performed immediately in any patient presenting with abnormal neurological signs, visual disturbance, or severe headache without other obvious cause
Consider emergency hydrocortisone	<ul style="list-style-type: none"> • If the patient is unwell, nauseated, has vomited, or is clinically suspected of hypovolaemia or hypocortisolaemia, give 100mg hydrocortisone IM immediately (as soon as the blood has been taken, but do not wait for the results).
Discuss with the on call Endocrinology consultant	<ul style="list-style-type: none"> • The endocrinology consultant will determine whether prolactin is required urgently and liaise with biochemistry to arrange this. • They will advise on the next steps. • Most patients will need discussion with the specialist pituitary neurosurgical team in London available directly via the National hospital switchboard 0845 155 5000 or 0203 456 7890, bleep 8100. • CT scans are performed on emergency cases in the first instance out of hours in all cases. However, the endocrinology team will advise whether an MRI is also required after discussion with the neurosurgeons. • MRI scans are available 24/7 but are reserved for confirmed true

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

	pituitary emergencies after discussion with the neurosurgical team.
Other tests	<ul style="list-style-type: none">• All patients with suspected pituitary disease and visual field loss require urgent prolactin estimation, MRI scan and formal visual perimetry as soon as possible.• Pituitary tumours secreting very high levels of prolactin usually respond well to medical treatment even in patients with visual field loss. Prolactin levels are therefore required urgently and before discussion with the neurosurgical team for stable patients.• Out of hours this will be discussed by endocrinology with the oncall consultant biochemist. In normal working hours, please telephone lab and mark request as urgent on ICE.• Bloods should also be sent for liver function test, bone profile, TSH, free T4, IGF-I, , LH, FSH, testosterone/oestradiol and SHBG but these tests are non-urgent and so can be analysed within working hours.• Transfer to a neurosurgical centre should not be delayed pending those results.

Objective/s

Ensure all patients with potential pituitary disease and endocrine or neurosurgical emergencies are assessed and managed uniformly and appropriately.

Rationale

Patients with pituitary disease often present with nonspecific symptoms and are usually initially seen by non-specialists who may have little experience of these conditions.

This guidance has been written to ensure that:

- Patients are assessed appropriately and the most important initial tests are taken prior to treatments that can affect their interpretation,
- to ensure that the optimal emergency treatment is provided to these patients,
- to ensure that expert advice is sought as early as possible to optimise their ongoing treatment.

Broad recommendations

See quick reference pages for initial patient assessment.

Always discuss patients with suspected pituitary disease with the on call Endocrinology consultant via switchboard (24/7) or the on call StR(DECT 2763 9:00AM 08:30 pm). Pituitary neurosurgery is provided by the specialist team at the

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

National hospital for neurology and neurosurgery but patients must be discussed with endocrinology first in all cases.

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

Special circumstances:

1 Post operative patients

Determine the date, details and location of recent pituitary surgery.
Document a careful drug history in particular their steroid requirements.
Send paired blood and spot urine sample for osmolalities, and urine sodium in all patients complaining of thirst, polyuria or in whom serum sodium is abnormal.

1a Hyponatraemia post pituitary surgery

This is common after pituitary surgery. Important causes in this patient group include glucocorticoid deficiency, SIADH and cerebral salt wasting, though other causes are of course possible.

Glucocorticoid deficiency

If the patient has not been taking hydrocortisone, or if their dose has been reduced, this is the most likely cause. Send a yellow top blood sample for urgent cortisol and treat the patient empirically with 100mg hydrocortisone IM immediately, and every 6 hours until the result is known and senior endocrine advice has been given.

SIADH

Following pituitary neurosurgery, SIADH commonly occurs at about day 7-10. It is vital to exclude glucocorticoid deficiency and hypovolaemia before this diagnosis can be made. If these two conditions have been excluded, send serum and urine osmolalities, thyroid function (TSH and free thyroxine in pituitary patients) and a spot urine sodium, and if SIADH is confirmed, treat conventionally with fluid restriction. Please refer to the trust guideline on management of hyponatraemia.

Over treatment with DDAVP

Occasionally patients may have started regular treatment for diabetes insipidus (DI) post operatively e.g. with daily intranasal or oral desmopressin, but their DI was transient and has now resolved. This may lead to hyponatraemia with fluid retention. Stop the DDAVP, and the patient will normally excrete their excess water load. Liaise closely with the Endocrinology team (on call StR DECT 2763 9:00 AM to 8:30 PM) and monitor serum sodium closely.

Cerebral salt wasting

This is occasionally seen following pituitary neurosurgery, and is typified by high urinary sodium $>>30\text{mmol/l}$ in the hyponatraemic, hypovolaemic patient. If this diagnosis is confirmed with the Endocrinology consultant, IV fluid replacement is required.

1b Hypernatraemia following pituitary surgery

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

This usually occurs due to volume loss, and in particular due to DI. Patients will usually complain of extreme thirst, polyuria and nocturia. If they have been able to drink well, their serum sodium may be normal or near normal. If they have not had access to free fluids, e.g. if they have problems with communication or mobility, serum sodium will rise. Occasionally, e.g. following surgery for extensive craniopharyngiomas or very large pituitary tumours, hypothalamic damage may damage the thirst centre as well as causing DI. These patients will be hypernatraemic, hyperosmolar, with dilute polyuria, but may not complain of thirst.

Send urine and serum osmolalities and discuss result with Endocrinology consultant. DI will usually respond to a single dose of desmopressin (DDAVP) 1microgram given subcutaneously and free access to oral fluids.

1c CSF Leaks

If patients complain of a salty taste at the back of their mouth or of a clear nasal discharge exacerbated by leaning forward, this may represent a CSF leak. Collect a sample of the fluid if possible into a grey topped and universal plain tube, and send for glucose estimation (in an ideal world, collect a sample into a universal container and send it to the lab for beta 2transferrin (TAU protein) detection as this is the most sensitive test to confirm CSF), (microscopy, culture and sensitivities- this is not necessary as the sample will be contaminated by nose micro-organisms). If meningitis is suspected, a lumbar puncture is required. Discuss with the on call endocrinology consultant. If this is confirmed to be CSF, the patient will be transferred back to the neurosurgical centre that undertook their surgery for lumbar drain insertion and possible surgical repair.

2 Patients with meningism, altered GCS, visual field disturbance, headache or any new neurological signs

Patients with suspected pituitary disease, or following pituitary surgery who have **any** of the complications above require an urgent CT scan and may also require CSF examination. Discuss the patient and CT results with the on call endocrinology consultant via switchboard 24/7. The patient will be discussed with the pituitary neurosurgical team immediately to determine whether they require immediate treatment with antibiotics for suspected meningitis, or an MRI scan and immediate or next day transfer to the neurosurgical centre for possible surgical intervention.

3 Emergency pituitary neurosurgical e referrals

- These should be made via the endocrinology team at all times.
- The pituitary neurosurgical team is based at the National Hospital for Neurology and Neurosurgery, (also known as Queen Square) part of University College London Hospital. All pituitary neurosurgical emergencies need to be discussed with this team. **Do not refer them to the general neurosurgical team at Addenbrooke's.**
- NNUH Imaging is sent electronically via IEP to UCLH.
- Out of hours contact accident and emergency radiology on ext 2068. Trained out of hours radiographers in IEP can transfer images, in case of an emergency.

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

- If there are any problems overnight then they will need to contact the PACS team the following day –on call service is not provided.
- Urgent referrals should be made by phone to the National Hospital of Neurology and Neurosurgery switch board: 0845 155 5000 or 0203 456 7890, bleep 8100
- For urgent referrals, please also complete the on line referral form www.referapatient.org and choose the National Hospital for Neurology and Neurosurgery
- Urgent referrals are also usually communicated by endocrinology consultant to neurosurgeons directly by email and mobile phone

Routine referrals should be made by letter to Neurosurgeons Mr N Dorward or Ms J Grieve, and emailed to the National Hospital for Neurology and Neurosurgery Pituitary MDT co-ordinator uclh.referrals.pitmdtm@nhs.net

- All new patients also need to be referred to the next pituitary MDT for formal discussion, though this will be performed retrospectively by the endocrinology team for urgent cases. See appendix 1.

Clinical audit standards

All patients to be discussed with Endocrinology team prior to neurosurgical referral.

All patients referred to the appropriate neurosurgical team.

Summary of development and consultation process undertaken before registration and dissemination

The authors listed above drafted this guideline on behalf of the directorate of endocrinology, who has agreed the final content. During its development it has been circulated for comment to radiology, neurology, ophthalmology, AMU and accident and emergency.

This version has been endorsed by the Clinical Guidelines Assessment Panel.

Distribution list/ dissemination method

Endocrinology and neurology clinical guidelines via trust intranet.

Trust Guideline for the Pituitary Tumour / other Pituitary Emergency

Appendix 1

MDT referral process

uclh.referrals.pitmdtm@nhs.net

Contact: Jennifer Fraser Tel: 020 3448 8837 / Fax: 020 3448 8832

She will communicate this via secure email to the National Hospital team

numita.miah@uclh.nhs.uk fax 0203 448 8832, phone 0203 448 8831.

MDT's are held on the 1st Tuesday of each month via Video Conferencing and commences at 8.30 a.m.