Porphyria - Full Clinical Guideline

Reference no.: CG-GASTRO/2023/018

Acute porphyria emergency management guidelines

Introduction
Acute intermittent porphyria (AIP), Variegate porphyria (VP) and Hereditory Coproporphyria (HCP)
are autosomal dominant conditions, which may lead to potentially life threatening acute neurovisceral attacks.

Attacks are uncommon but may be precipitated by
- UNSAFE prescribed or illicit drugs,
- infection
- stress,
- excess alcohol
- reduction in calorie intake
- sex hormone fluctuation (especially raised progesterone in luteal phase of menstrual cycle)

Clinical Features during an attack
- Abdominal pain
  - Severe, poorly localised. No evidence of acute abdomen on examinations. Level of pain appears out of keeping with physical signs and requires large doses of opiate administration. Pain may also affect back, legs and other sites.
- Nausea/vomiting/constipation
- Hypertension and tachycardia and (rarely) arrhythmias
- Convulsions
  - Frequently associated with hyponatraemia
- Peripheral motor neuropathy
  - may progress to flaccid paralysis, respiratory insufficiency, difficulty swallowing, urinary retention or incontinence
- Psychiatric symptoms such as agitation, insomnia, confusion, psychosis

MANAGEMENT

Clinical assessment
- Assess patient condition and analgesic requirement.
  - Support from Pain team may be required
- Remove possible precipitating factors e.g unsafe drugs
- Monitor pulse and blood pressure, at least 4 hourly
- Check motor power and ventilator function. Evidence of respiratory insufficiency requires immediate transfer to ITU
- **Consider and exclude other causes of abdominal pain**

Biochemical assessment
UE (daily or more frequently in hyponatraemia)
FBC, CA, Mg, LFTs and CRP on presentation then twice weekly

Urine porphobilinogen (PBG) testing MAY be helpful, but should not delay treatment. Collect 10mL random urine in plain tube, **protect from light** and send to laboratory for porphyria screen.
This sample should be collected **prior** to starting any Haem arginate.

PBG concentration is always raised in an acute attack of porphyria however some patients have persistently raised levels between attacks (especially AIP) therefore other causes of acute abdominal pain should always be excluded.

PBG may return to normal quickly especially in VP and HCP. If there is a delay sample collection, PBG alone may not be sufficient and analysis of urine porphyrin excretion required. This is included as part of the porphyria screen.

Supportive treatment

Indication	**Suggested safe drugs**
Maintain fluid/calorie intake a) Tolerating oral intake	25% Oral glucose solution
Maintain fluid/calorie intake b) Not tolerating oral intake	IV 0.9% sodium chloride containing 5% glucose **AVOID IV glucose in Water solution including dextrose 5% and 10%** as may aggrevate hyponatraemia
Pain	Paracetamol, morphine, diamorphine and fentanyl **AVOID PETHIDINE**
Vomiting	Promazine, prochloperazine or ondansetron
Agitation/anxiety	Chlorpromazine
Hypertension/tachycardia	atenolol, propanalol or labetalol
Convulsions	diazepam, clonazepam or magnesium sulphate

Specific treatment: Haematin (haem arginate; Normosang)
SUPPLIED BY THE NATIONAL ACUTE PORPHYRIA SERVICE (25 mg/mL stock solution)

Indications: Prolonged pain,
persistant vomiting,
hyponatraemia,
convulsions,
psychosis
neuropathy

Protocol:

- Dilute immediately prior to use in 100 mL 0.9% sodium chloride or 20% human serum albumin
    - Do not shake
- Dose: 3 mg/kg daily on 4 consecutive days
- Infusion: Intravenous via central line, central port or large peripheral vein with 15-20 μm inline filter
    - Infuse within 1 hour with maximum rate 2mL/min
- After infusion: Flush vein with 250 mL sodium chloride (0.9%) Initially 3-4 boluses of 10mL, the remainder under gravity.
- Where repeated courses are used, venous access can be preserved and vascular complications limited by diluting Haem arginate in 20% human serum albumin

Further Information
CLINICAL ADVICE and Haem Arginate supply : British and Irish Porphyria Network Tel: 02920 747747 (24/7 service)
www.bipnet.org.uk
Porphyria Safe Drugs List : www.wmic.wales.nhs.uk/porphyria_info.php
Local Acute Porphyria Lead : Dr B Norton
Laboratory advice sample collection/ : Duty Biochemist x 89393 (Mon-Fri 08.00 – 19.00 hrs)

References:
Stein S et al, Best practice guidelines on clinical management of acute attacks of porphyria and their complications. *Annals of clinical biochemistry* 2013; **50**: 217-223

Documentation Controls

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