# Acute hepatic porphyria attack (Intermittent acute porphyria, porphyria variegata, heredit coproporphyria)

Label

## Priority patient: must not be kept waiting in A&E

**RISK OF SEVERE CENTRAL AND PERIPHERAL NERVOUS SYSTEM COMPLICATIONS: CONFUSION / COMA, SEIZURES, PROGRESSIVE PARALYSIS OF THE UPPER AND LOWER LIMBS, HYPONATRAEMIA**

**Do not await signs of decompensation, always start treatment as below.**

**A porphyria attack presents as CONTINUOUS, VERY SEVERE ABDOMINAL PAIN LASTING FOR AN EXTENDED PERIOD (over several days)**

## 1 EMERGENCY

- **Assay of ALA (delta-aminolevulinic acid) and PBG (porphobilinogen)** in a urine sample to confirm the diagnosis.
- Failing the ALA and PBG assay, a photo-oxidation test can be performed.
- **Blood electrolytes:** look for **hyponatraemia** which can be severe and with rapid onset.
- Eliminate other causes of abdominal pain
- Investigation and exclusion of a triggering factor: infection, toxins including alcohol, contraindicated treatments (see list on www.porphyrie.net), prolonged fasting, onset of menstruation, severe stress etc.
- **Contact the Porphyria Rare Disease Reference Centre (RDRC) 24/7 on 0033 1 47 60 63 34**

## 2 TREATMENT TO BE STARTED URGENTLY, without awaiting test results:

Symptomatic treatment:

- Hydration and caloric intake: G10 % glucose Daily intake of 200 to 300 g of glucose every 24 hours, with insulin if necessary. Appropriate Na+/K+ supplementation Daily monitoring of blood sodium level.
- Analgesics: morphine if very painful attack, use IV-PCA, or else subcutaneous and/or IV routes (do not use paracetamol IV or tramadol; nefopam is permitted)
- Antispasmodics: if spasmodic pain, injectable phloroglucinol
- Antiemetics: if vomiting or nausea, treatment with ondansetron IV
- Hypnotics/sedatives: use zopiclone, lorazepam or bromazepam if required
- Sedation and agitation: chlorpromazine 4 % oral solution
- Hypertension / tachycardia: β-blockers

If there are severe signs:

Treatment with haem arginate (Normosang; 25mg/ml ampoule 10 ml) (see over)

- Weight > 50kg: 1 ampoule / 24hrs. Dilute the contents of one ampoule of Normosang in 100 ml of saline solution (0.9 % sodium chloride)
- Weight < 50kg dosage 3mg/kg. Same methods of administration
- Inject the solution intravenously over around 30 minutes, protecting the bottle from light and using opaque tubing (if not possible, use aluminium foil around the bottle and tubing). Set up a bottle of physiological saline using a Y-set.
- At the end of the perfusion, using a 3-way tap rinse thoroughly with physiological saline under positive pressure using a 10 ml syringe (4 x 10 ml), then infuse the remainder of the bottle of physiological saline (rinsing is particularly important if using a port-a-cath).
- Infusion once daily for 2 to 4 days (to be decided after daily reassessment with a doctor from the porphyria RDRC and in light of the urinary porphobilinogen results), using a different vein each day.
- STOP THE INFUSION IMMEDIATELY IF THERE IS EXTRAVASATION

## 3 SEVERE SIGNS = seek advice / transfer to ICU, requires treatment with hemin

- Very painful attack not responding after >24-48 hrs to correctly administered morphine
- Central nervous system signs (seizures, consciousness disturbance or behavioural disorders, hallucinations, bulbar disorders, PRES syndrome etc,) or peripheral nervous system signs (in particular motor deficits, classically beginning proximally in the limbs)
- Autonomic dysfunction (hypertensive crisis, tachycardia, urinary retention)
- Hyponatraemia <130 mmol/L

## 4 MONITORING while being treated

- Pain assessment
- Daily neurological examination to look for severe signs
- Daily ALA and PBG measurement
- Daily monitoring of blood electrolytes

## PATHOPHYSIOLOGY

Patients with acute hepatic porphyria show an enzyme deficiency in the haem biosynthetic pathway This deficiency can be responsible for the build-up of neurotoxic precursors, ALA and PBG, in the liver. Trigger factors are usually found. These lead to the body having an increased requirement for haem.

## SITUATIONS WHERE DECOMPENSATION IS A RISK

- Intercurrent infection, fever, anorexia
- Consumption of toxins including alcohol
- Taking of contraindicated treatments
- Onset of menstruation
- Severe stress

## DRUG CONTRAINDICATIONS

Some treatments are known to induce attacks of porphyria. An updated database can be accessed on the website of the porphyria RDRC at: www.porphyrie.net

In a medical emergency other than a porphyria attack: NO DRUG CONTRAINDICATIONS APPLY. Urinary monitoring of precursors should be started.

All vaccinations are recommended. Only the vaccine against yellow fever needs to be accompanied by measurement of urinary precursors.

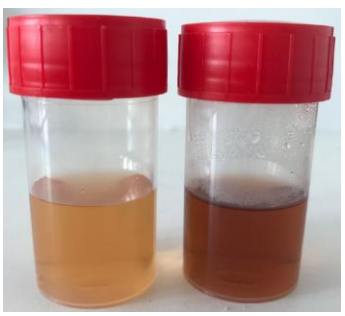
## METHODS FOR TAKING AND DISPATCHING SAMPLES FOR MEASUREMENT OF ALA and PBG

Assay to be carried out on urinary sample, protected from light (opaque container or protected by aluminium foil), and transported at 4°C. Send sample, along with the laboratory request form (downloadable from www.porphyrie.net) to:

LBMR (Porphyria Reference Laboratory)
Hôpital Louis Mourier
178 rue des Renouillers
92700 Colombes

## PHOTO-OXIDATION TEST

When a urine sample taken during a porphyria attack is exposed to strong light, PBG polymerises in vitro to form uroporphyrin. The urine develops a darker colour, classically described as “port wine” (see picture below). While awaiting the results of ALA and PBG measurement, this test can be performed on a patient with a suspected diagnosis of porphyria attack who was not previously known to have the disease (in this case urinary PBG concentrations may be elevated between attacks). In practice, a fresh urine sample is split into two. Expose one half to strong light for at least half an hour (under a desk lamp for example) while protecting the other half from light using aluminium foil and placing it in a refrigerator. Then compare the two.



On the left, the sample protected from light; on the right, the sample has been exposed for 30 min.

Look up the emergency

## NUMBERS AND MEDICAL SPECIALISTS

On-call telephone numbers for metabolic emergencies:

At night, only medical teams can call in emergency situations, and only if the emergency certificate has not been understood or if the clinical state or test results are worrying. As far as possible, make calls before nighttime.

Secretarial issues must be dealt with via the medical secretariat during the week, or by email addressed to the patient’s metabolic medicine specialist.

Certificate issued on Dr