

Regional Guideline for Management of Hyperemesis Gravidarum

This guideline has been produced by The Acute and Chronic Special interest Group, which is a working group of the Maternity, Children and Young People Strategic Clinical Network in Cheshire and Merseyside.

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1. Clinical Features of Hyperemesis Gravidarum

- Nausea and vomiting may occur throughout the day
- Onset is **always** in the **first trimester** before 12 weeks, (usually abates by 16/40)
- Severe protracted nausea and vomiting + ptyalism (inability to swallow saliva) and associated spitting
- May be associated with weight loss >5% of pre-pregnancy weight
 - Muscle wasting
 - Electrolyte imbalance including ketosis

2. Hyperemesis is a Diagnosis of Exclusion

- New onset vomiting after 12/40 should NOT be attributed to hyperemesis
- Other causes of nausea and vomiting to consider:
 - Molar pregnancy
 - Infectious causes: UTI, ear, Infection, gastroenteritis
- Endocrine causes:
 - Thyrotoxicosis
 - Hyperparathyroidism causing hypercalcaemia
 - Diabetic ketoacidosis
 - Addison's disease (insidious onset with some features predating the pregnancy)
- Surgical causes:
 - Peptic ulceration
 - Cholecystitis **or** pancreatitis
- Vestibular disease
 - Labyrinthitis
 - Meniere's disease

.Raised intracranial pressure

- Psychological
 - Eating disorder
- Drugs
 - Iron Supplements,
 - Opioids
 - Antidepressants
 - Antibiotics
 - Digoxin

3. Examination

- Signs of dehydration
 - Loss of skin turgor
 - Dry mucous membranes
 - Tachycardia
 - Postural hypotension
- Record pulse
 - BP (Lying and standing)
 - Respiratory rate (MEOWS)
- Weight (weekly)
- Abdominal palpation
- Urinalysis
 - Ketnuria
 - Leucocytes
 - Specific gravity
- Fundoscopy *if* relevant

4. Investigations

- FBC, Raised haematocrit level, U&E
- Calcium, Phosphate, Magnesium, Glucose Levels
- LFT (Only if vomiting persists after 16 weeks or recurrent admissions)
- TFT's* (only if signs & symptoms suggestive of thyroid dysfunction or vomiting persist beyond 16 weeks)
- MSU –Urine microscopy /C&S
- Pelvic ultrasound: if no previous scan to exclude Multiple pregnancy or molar pregnancy
- Abnormal TFT's are found in 66% and abnormal LFT's up to 50% cases of hyperemesis

5. Management: Exclusion Criteria for Outpatient Management

- Significantly abnormal urea Creatinine, Na+, K+, Ca, Mg, phosphate levels
- High blood glucose with or without ketonuria
- Haematemesis
- Loss of >5% body weight – needs admission
- History of
 - Pre- Pregnancy Diabetes
 - Addison's disease
 - Hyperparathyroidism
 - Heart disease
- Suspect other causes
- Tachycardia and/or ≥3+ketones persists after
- Rehydration as per protocol.
- 3 previous attendances for day case hydration
- Discuss with consultant

Any abnormal investigations; discuss with registrar and/or consultant before managing as an outpatient

5.2 Community-Based Management: Mild Dehydration, No ketonuria

- Advice
 - Reassurance and dietary advice
 - Small dry frequent snacks
 - Avoid fatty fried spicy food and fizzy drinks
 - Take small amounts of fluid regularly
- Medication
 - Encourage taking oral anti-emetic regularly as prescribed reducing to PRN as frequency of vomiting improves
- Follow Up
 - Refer back to GP for follow up
 - Documentation in notes/or send GP/Community Midwife letter
 - Provide contact details

5.3 Moderate Dehydration Ketonuria 1-2+

- Explain that in most cases women can be cared for as an outpatient
- Offer first line Antiemetics IM/IV as per chart
- Stop oral iron supplements
- IV access with 18G or 16G cannula

Adequate and appropriate INTRAVENOUS fluid and electrolyte replacement MUST be adapted in line with U&E results

- Vitamin supplements as mentioned in the chart
- Record fluid input/output on chart to avoid dehydration
- Hourly meows chart

5.4 Initial Fluid Management: SEE FLOW CHART

If U&E Not Available, Check On Blood Gas Machine

- If K⁺ normal: One litre of Hartman's over 2 hours
- If K⁺ (3.5-3.9): One litre of 0.9% Sodium Chloride with 20 mmol/L through VAC pump at 500 ml per hour
- If K⁺ (3.2-3.4) : 0.9% Sodium Chloride with K⁺ 40 mmol /L through IVAC pump at 250ml per hour
- Second litre of 0.9% Sodium Chloride or Hartmann's over 4 hours
- If K⁺ <3.2: Needs admission for further management (1L 0.9% saline +40mmol K, 3L/day)
- Hyponatraemia <120 mmol/L must be corrected slowly as too rapid a correction can result in central pontine myelinolysis

Note: Do not use Dextrose Saline or Double strength Saline as too rapid a correction of hyponatraemia increases the risk of precipitating central pontine myelinolysis and worsening Wernicke's encephalopathy

Reassessment after 4 hours

6. Discharge:

- Allow home if vomiting improved and tolerating oral fluids (There is no need to re-check the urine if tolerating oral Fluids)
- Prescription for Anti-emetic and Thiamine
- 25-50 mgs TDS if more than one attendance for rehydration)
- Dietary advice and reassurance.
- Information leaflet
- Request dating scan if not already organised
- **Provide contact numbers for Day Unit for further advice**

7. Admission:

- If no improvement and vomiting persists or recurrent attendance > 2 previous attendance with no improvement of nausea and vomiting

Please Note

- If symptoms suggesting gastritis, consider adding antacids and if these have already been tried and proved ineffective add oral Ranitidine 150mg BD or if not tolerating any oral medications give Ranitidine 50mg IV
- Women may require further outpatient management.
- Advise to present early if vomiting becomes unmanageable.
- Check that arrangements have been made for booking and/or follow-up antenatal care.

7.1 First Line Antiemetics

- **Cyclizine** 50 mg p.o, i.m, i.v 8 hourly
- **Prochlorperazine** 5-10 mg p.o, i.m, i.v or p.r 6-8 hourly, 12.5mg i.m/i.v 8 hourly or 25mg p.r daily.
- **Promethazine** 12.5-25 mg i.m, i.v or p.r 4-8 hourly
- **Chlorpromazine** 10-25 mg i.m/i.v 4-6 hourly 50–100 MGg p.r. 6–8 hourly
- **Doxylamine + pyridoxine** 10 mg of each up to 8 tablets per day

At least ONE antiemetic should be prescribed regularly

- Extrapyramidal effects due to **phenothiazines** (prochlorperazine) and Metaclopramide usually abate after discontinuation of the drugs
- **Oculo- gyric** crises may be treated with **Antimuscarinic** drugs such as **Benzatropine 1–2 mg Intramuscularly**
- OR **Procyclidine** 5 mg slow iv

7.2 Second Line Antiemetics

- **Metoclopramide** 5–10mg i.v. or i.m. 8 hourly (maximum 5 days duration)
- **Ondansetron** 4-8mg i.m 6-8 hourly, 8mg slow iv over 15 minutes, 12 hourly
- **Domperidone** 10mg i.m 8 hourly or 30-60mg p.r TDS
- **Thiamine hydrochloride** 25-50mg **PO TDS MUST BE GIVEN** to prevent Wernicke's encephalopathy

For those with protracted vomiting not responding to treatment, consider giving

- **THIAMINE** intravenously. Give Thiamine IV (NOT IM)
- 100mg diluted in 100mls of normal saline infused over 30-60 minutes once weekly.
- Alternatively, this may be given as **Pabrinex®**, which contains 25mg of **Thiamine Hydrochloride** per pair of ampoules. The i.v preparation is only required weekly
- **Folic Acid** 5mg PO OD should also be prescribed.

7.3 NB risk of anaphylaxis with PABRINEX

- There is a risk of anaphylaxis with **PABRINEX**, therefore observe patient carefully and take remedial measures as necessary whilst using **Pabrinex**. **To be given no more frequently than weekly.**
- Discharge with oral **Thiamine** 50 mg t.d.s, to be started one week after administration of IV **Pabrinex**.
- Discuss with senior medical staff and always involve pharmacy.

7.4 Emotional Support

- Frequent reassurance and encouragement from staff.
- Psychiatric referral may be appropriate in certain cases.
- Enquire about domestic violence and refer to appropriate teams

8. Inpatient Management of Hyperemesis Gravidarum

- Meets the exclusion criteria for outpatient care
- Diagnostic uncertainty – women requiring additional investigations
- Women requiring enteral feeding
- Three attendances for day case rehydration **MUST** be discussed with Senior Registrar/Consultant

8.1 In Addition to Measures Described in Outpatient Management

- **Thromboprophylaxis** for in patients (see VTE guideline)
- Diet: Introduction of light diet once oral fluids tolerated and if woman feels hungry. Discourage spicy/fatty foods.
- Consider dietician referral if significant malnutrition and muscle wasting
- **Corticosteroids**: For resistant cases, consider a course of Corticosteroids

8.2 Corticosteroids

- **Corticosteroids** should not be used until conventional treatment with iv fluid replacement and regular parenteral anti-emetics has failed
- They should not be used for those with recurrent admissions who respond to parenteral anti-emetic therapy
- In cases who do not respond to steroid therapy, It should be discontinued enteral feeding

- For intractable vomiting following discussion with a consultant, consider corticosteroids
- Suggested doses are prednisolone 40–50 mg orally (po) daily in divided doses or
- **Hydrocortisone** 100 mg iv twice daily

8.3 In Cases Who Do Respond to Steroid Therapy:

The steroid dose must be reduced slowly and **prednisolone** cannot usually be discontinued until the gestation at which the HG would have resolved spontaneously (in some extreme cases this occurs at delivery)

8.4 Reducing Dose for Oral Prednisolone for Refractory Cases

- After 100mg **Hydrocortisone** IV BD for one day then
- Oral **Prednisolone** 40mg daily for 3 days
- Then decrease daily by 5mg increments until
- 5mg daily and leave on this dose for 3 days
- Then decrease by 1mg every 3 days until 1mg daily for 3 days then
- STOP (total of 36 days).

9. Wernicke's Encephalopathy

Due to vitamin B1 (thiamine) deficiency characterised by:

- Blurred vision, unsteadiness, and confusion/memory problems/drowsiness
- On examination, there is usually nystagmus, ophthalmoplegia, sixth nerve palsy, hyporeflexia/areflexia, gait and/or finger nose ataxia
- Wernicke's encephalopathy may be precipitated by i.v fluids containing dextrose

Note:

Dextrose Containing Iv Fluids Must Not Be Given As Can Precipitate Wernicke's Encephalopathy

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