

NAUSEA AND VOMITING IN PREGNANCY

CLINICAL GUIDELINE MSCA.MBC.2.1

Be careful not to under-estimate severity of nausea and vomiting!

Hyperemesis Gravidarum: a pregnancy-specific condition characterised by severe and protracted vomiting that results in ketosis or electrolyte imbalance, dehydration and weight loss (> 5%).

Pre-pregnancy

Risk factors:

- Previous history of hyperemesis gravidarum
- First pregnancy
- Young age
- Obesity
- Family history
- Iron Supplements
- History of motion sickness and/or migraines

Provide counselling and support

- Preconception folate/vitamin therapy may reduce the incidence and severity of symptoms
- Early use of drugs that were effective in a previous pregnancy may reduce severe HG recurrence

Antenatal period

- A diagnosis of HG must only be made when the onset is in the first trimester and all other causes have been excluded by careful history-taking, examination and targeted investigations (see table below)
- May present with excessive salivation, postural hypotension and tachycardia

Differential Diagnosis (full clinical assessment must be done)		
System	Diagnosis	Investigation
Genitourinary	Urinary Tract Infection	Midstream MC&S urine
	Uraemia	Urea and electrolytes
	Molar pregnancy	Uterine ultrasound
Gastrointestinal	Gastritis/peptic ulcer	H Pylori antibodies/endoscopy
	Pancreatitis	Amylase, blood glucose, calcium
	Bowel obstruction	Supine AXR
	Hepatitis	LFTs, Abdominal Sonar
Endocrine	Addison's disease	U/E, early morning cortisol, short synacthen test with ACTH
	Hyperthyroidism	TFTs, thyroid autoantibodies
	DKA	Blood glucose, urine/serum ketones, OGTT
	Porphyria	Urinary porphobilinogen
CNS	Intracranial tumour	Brain imaging
	Vestibular disease	ENT /CNS examination
	Meningitis	Lumbar puncture
Pregnancy related	Pre-eclampsia	BP, dipstick, U/E, LFT , FBC
	Acute Fatty Liver	LFT, clinical
Drug induced		Stop offensive agent

Investigations for HG

- Ultrasound scan to exclude molar pregnancy or multiple pregnancy
- FBC (haemo-concentration)
- Urea and electrolytes
- Urine dipstick testing
- Other investigations according to clinical findings (see table)

Management of non-severe N&V

- Ginger supplements may help
- Avoid fatty, carbohydrate-rich and high-acidity foods
- Avoid other environmental triggers
- Snack as soon as hungry and before getting up (e.g., dry cracker with peanut butter)
- Acupuncture wrist band
- Oral anti-emetics may be tolerated:

Management of HG

- Patients to be instructed to go to ER if they cannot keep food or fluids down for more than 12 hours, or experience symptoms of hypovolemia (e.g., light-headedness, lethargy, thirst, tachycardia or decreased urine frequency).
- In ER: IV anti-emetics and fluid replacement can be given; hospitalization if persisting symptoms, or abnormal electrolytes or acidosis
- Multidisciplinary approach
- Offer psychosocial support
- Monitor urine output
- Intravenous fluid replacement if required: 0.9% Saline is the fluid of choice
 - Avoid dextrose containing fluids as they do not contain adequate Sodium, Wernicke's encephalopathy can be precipitated by IV dextrose and carbohydrate-rich foods (dextrose can only be given IV if the sodium levels are normal and thiamine has been administered).
- Correct electrolyte imbalances and monitor (need daily urea and electrolyte assays)
 - May need to add potassium chloride to every litre of NS
 - If severe hyponatremia, refer to physician as too rapid correction can lead to central pontine myelinolysis
- Vitamin B₁ (Thiamine) supplementation: 100mg IV daily/ or orally
 - Vitamin B₁ deficiency can lead to Wernicke encephalopathy (Diplopia, 6th nerve palsy, Nystagmus, Ataxia, Confusion) and if untreated this can progress to Wernicke - Korsakoffs psychosis, with amnesia, learning impairment or death

Anti-emetics

Start oral, but consider rectal or IM, IV when not tolerating PO

Start with one drug but add a drug from another class if insufficient

First line: (safety and efficacy)

- Anti-histamine: Cyclizine (Valoid®) 100mg rectally BD or 50mg TDS PO, IM or IV or Promethazine: (Avomine®, Phenergan®) 25mg 6 hourly PO, PR, IM or IV
- Phenothiazine: Prochlorperazine: (Stemetil®) 5-10mg PO TDS (use with caution) or 25mg PR daily or 12.5mg IM or IV 8 hourly or Chlorpromazine (Largactil®) 10-25mg 4-6h PO, IV or IM or 50-200mg 6-8h PR

Second line:

- Dopamine antagonists (safety concern):
 - Metoclopramide (Maxalon®, Clopamon®) 5-10mg 8 hourly PO, IM or IV (avoid fast bolus injection, max 0.5mg/kg/d, max 5days)
 - Domperidone (Motilium®) 10mg 8h PO; 30-60mg 8h PR
 - Droperidol (Inapsin®) 5mg IV 4 Hourly

Monitor for extrapyramidal signs and stop immediately when present

Third line:

- 5-hydroxytryptamine antagonists (Ondansetron) (Zofran®) (limited data; possible risk of cleft palate and cardiac defects, avoid before 10 weeks if possible)
4-8mg 6-8h PO, 8mg slow IV over 15 min 12h

Do not use ineffective drugs such as pyridoxine and diazepam!

Additional Medication

- Thromboprophylaxis with LMWH, as long as admitted (unless active bleeding risk)
- For patients with reflux symptoms:
 - Gaviscon® 10 to 20mls PO 6 hourly
 - If not responding consider:
 - Ranitidine (Zantac® H2-receptor blocker) 150mg PO BD, or
 - Ezomeprazole (Nexiam® Proton-pump inhibitor) 20mg PO dailyAvoid long term use of these
- If no response consider corticosteroids:
 - IV Hydrocortisone (SoluCortef®) 100mg 8-12 hourly,
 - followed by Prednisolone 40-50mg daily
 - Reduce dose by 5mg every 5 days to taper
- If no response to above measures:
 - Consider Total Parenteral Nutrition (TPN)
 - Consider Termination of Pregnancy (TOP) as a last resort

Labour and delivery:

Women who were on corticosteroids until late in pregnancy should have IV hydrocortisone to cover labour and delivery (adrenal suppression)

Postnatal

- Review nutrition status
- Wean off steroids
- Discuss contraception
- Offer psychosocial support
- Taking multivitamins with folic acid not only reduces the risk of neural tube defects in future pregnancies but may also reduce the risk of recurring hyperemesis.

Authorship

These guidelines were drafted by a clinical team from Mediclinic and were reviewed by a panel of experts from SASOG and the BetterObs clinical team in 2019 and revised by the scientific subcommittee of BetterObs in 2022. All attempts were made to ensure that the guidance provided is clinically safe, locally relevant and in line with current global and South African best practise. Succinctness was considered more important than comprehensiveness.

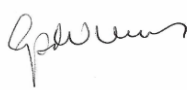
All guidelines must be used in conjunction with clinical evaluation and judgement; care must be individualised when appropriate. The writing team, reviewers and SASOG do not accept accountability for any untoward clinical, financial or other outcome related to the use of these documents. Comments are welcome and will be used at the time of next review.

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History and version control

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External Expert Obstetrician	1.1	Validated	2017 01 01
A. Hall + Dr C. Groenewald	1.2	Rebranded to Clinical Guideline and edited All drugs changed to active ingredients	2018 10 01
A. Hall + Dr C. Groenewald	1.3	Warning added for use of 5-hydroxytryptamine antagonists (Ondansetron – Zofran®) before 12 weeks gestation	2020 10 16
SASOG scientific committee Dr C Groenewald	2.1	Reviewed Added: Early use of drugs that were effective in a previous pregnancy may reduce severe HG recurrence Management of non-severe N&V added Section on Anti-emetics has been reconstructed	2022 11 01

Approved by

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