Hyperemesis Gravidarum Management Protocol

REHYDRATE METHODICALLY

Banana Bag + Vit B6 + Vit B1
Myer's Cocktail + 1 ampule MVI
D5NS or D5LR + 1 ampule MVI + Vit B6 + Vit B1
*Add as needed: Vit K, Vit D, zinc, selenium, iron, magnesium and calcium

IMPLEMENT COMPASSIONATE CARE

Women with HG are miserable for months and their concerns and requests should be taken seriously. Every possible comfort measure should be taken to minimize unnecessary suffering. Compassionate and effective treatment prevents therapeutic termination, and influences if mother and baby will suffer from physical and psychological complications (e.g. organ damage, trauma) during pregnancy and long-term.

PRESCRIBE ANTIEMETIC MEDICATIONS

Start with a drug targeting the main triggers (e.g. motion). If numerous triggers, and/or more severe symptoms, consider serotonin antagonists. Multiple meds may be needed simultaneously throughout pregnancy. Be proactive and aggressive early in pregnancy if she has a history of HG. See tiered medication list below. 2

PREVENT OR TREAT ADDITIONAL ISSUES

Issues: ptyalism, GERD, encephalopathy, gastroparesis, UTI, insomnia, h-pylori, cholestasis, debility, embolus
Medication side effects: severe constipation, serotonin syndrome, anxiety, headache, extrapyramidal symptoms

UTILIZE HER FOUNDATION RESOURCES

Share HER Foundation brochures & information (hyperemesis.org/info). Support email: help@hyperemesis.org.
Utilize HELP Score and HER HG Assessment & Management Clinical Tools (hyperemesis.org/tools).

YES

Is patient: Eating ≤ 1 meal per day? Dehydrated?
Losing ≥ 2lbs (1 kg)/week? Not responding to Rx?

NO

INPATIENT CARE

- Weigh every 1-2 days
- Use comfort measures 2
- Rehydrate: LR or NS + MVI + B1/thiamin IV + B complex IV + electrolytes (treat mild deficiency)
- Consider midline OR central/PICC line
- Begin Enteral/Parenteral Nutrition 2
- Labs: Nutritional panel, CMP, electrolytes, urinalysis
- Consults: Nutrition, PT, GI, home health, IV team
- D/C: Intake >1 meal/day + adequate fluid intake OR nutritional therapy + no ketones & maintaining or gaining weight. Goal: HELP Score ≤20

HOME CARE

- Weigh Monday/Wednesday/Friday
- Complete HELP Score daily
- Nutrition/Fluids: Enteral (NG/NJ or PEG/J) *or* Parenteral Nutrition (TPN/TPPN) *or* PICC/midline + LR or NS + MVI + vit B1 IV + B complex IV
- Weekly labs if on TPN: CMP, electrolytes
- D/C: Intake ≥ 2 meals/day + adequate oral fluids + no ketones + weight gain. Goal: HELP Score ≤20

2 see page two for more detailed information

OUTPATIENT CARE

FIRST VISIT

- Establish compassionate rapport
- R/O: hydatiform mole (GTD), gall bladder & pancreatic disease, helicobacter pylori, hyperthyroidism
- Labs: Urinalysis, hormone levels, comprehensive metabolic panel (CMP), thyroid panel

EACH VISIT

- Assess with HELP Score & HER Clinical Tools
- Try prenatal with food or iron-free as tolerated
- Weigh at least weekly & trend % weight loss
- Labs prn dehydration: electrolytes, CMP, u/a, ketones
- Encourage active oral care (e.g. water flosser) & eval
- Evaluate & treat additional symptoms (see above)
- Check WE signs (esp. if infusing dextrose) 2
- Refer for consults & adjunctive care 2
- Diet: Encourage healthiest food tolerated, increase thiamin to 100 mg PO TID if high carbohydrate diet
- Review medications 2 for tolerance/side-effects
- Monitor thiamin & vitamin K & electrolyte needs

2nd & 3rd TRIMESTER

- Labs: thyroid panel, iron, CMP
- PT consult: weakness/atrophy, birth prep
- Use alternate for Glucola (GTT), e.g. jelly beans, juice

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ANTIEMETIC ESSENTIALS

- 1st: Δ dose/frequency
- 2nd: Δ route (SubQ, TD, compound)
- 3rd: Add/replace a medication
- Avoid abrupt Δ's in 1st trimester
- Wean over 2+ weeks if asymptomatic
- Prevent/proactively treat side-effects
- Cocktail: 1st level meds + 5HT3 antagonist + Reglan or Phenergan

1ST LINE MEDS

- Antihistamine
- Acid reducer
- Vitamins B1 & B6 50-150 mg/day
- Rx's successful in previous pg

2ND LINE MEDS

- Prokinetics (Reglan* 2.5-10 mg QID)
- Proton pump inhibitors (PPI)
- Serotonin antagonists (ondansetron 8 mg QID, granisetron 2 mg BID or TD)
- Promethazine* (Phenergan 25mg QID)
- Methylprednisolone (after 8 weeks)
- IV fluids/Nutritional therapy

3RD LINE MEDS/EXPERIMENTAL

****USE CAUTIOUSLY; SAFETY UNKNOWN****

- Phenothiazines* (e.g. chlor-promazine, prochlorperazine)
- Benzodiazepine (e.g. Diazepam)
- Neuroleptic (e.g. Inapsine)*
- Remeron (mirtazapine)
- Anticonvulsants (e.g. neurontin)
- THC/marijuana (or Dronabinol Rx)
- Clonidine (Transdermal)

Δ = Change

* Avoid combining. Prophylax w/antihistamines for anxiety; monitor for extrapyramidal symptoms & neuroleptic malignant syndrome.

WERNICKE'S ESSENTIALS

- Causes: Thiamin & electrolyte deficiency/shifts, infection, diuretics
- Signs: Δ in vision or speech or gait or mental status, abdominal pain, headache, cardiac symptoms, somnolence, dizziness, weakness, aphasia, tremor, irritability, spastic paresis, seizure, myalgia, myoclonus, anorexia, dysphagia, elevated transaminase
- Prevention: oral/IV thiamin ≥ 100 mg daily or TID; continue postpartum
- Acute Care: Thiamin 500 mg IV TID x7 days or until asymptomatic
- Diagnosis: MRI or response to B1 IV (MRI may be negative in early WE.)
- Result: Maternal & fetal morbidity or mortality (e.g. pre-eclampsia, SIDS)
- Onset: Acute (e.g. IV dextrose) or can be gradual/chronic mild signs

WE=Wernicke's encephalopathy

TPN/TPPN ESSENTIALS

- Prevent Refeeding Syndrome
- Add MVI + B complex + extra B1 + Phosphorus + Mg + Vit D & K + Ca
- Labs: CMP weekly
- Strictly adhere to aseptic insertion technique & management protocols
- Red flags: chest pain, shortness of breath, temp ≥ 101 F (38.3 C) or ≤ 96.8 F (36 C), redness/swelling/rash

ENTERAL ESSENTIALS

- Prevent Refeeding Syndrome
- Check vitamin K & thiamin dose
- NJ: Small bore w/anesthesia
- May need extra IV or fluid boluses

COMFORT MEASURES

- Private room (avoid stimuli)
- Avoid IM injections (atrophy)
- Warm IV fluids/blankets
- Use anesthetic before IVs
- Midline/PICC vs. peripheral IV's
- Offer preferred foods when least ill

CONSULTS/ADJUNCTIVE CARE

- Consults: GI, nutrition, home health, mental health (PTSD), MFM, PT
- Adjunctive care: hypnosis, acupuncture, osteopathic manipulation

PATIENT/FAMILY EDUCATION

- Daily: HELP Score
- Call if significant Δ in HELP Score
- Coping for psychosocial & debility
- Red flag signs: hematemesis, rapid weight loss, Δ in breathing or gait or vision or mental status, fever, chills, chest pain/arrhythmia, somnolence, oliguria, fainting, severe pain

POSTPARTUM SUPPORT

- Psych: Trauma/PPD support
- Nutrition: Thiamin + prenatal
- Evals: PT, thyroid, ND, nutrition, GI

HG FACTS

- Genetic links to IGFBP7 & GDF15 & RYR2 (cyclic vomiting syndrome)
- Diagnosis: dehydration, poor nutrition, weight loss, debility
- Fetal loss rate: 34%
- Termination rate: 15%
- Maternal Complications: atrophy, esophageal tear/rupture, organ rupture/failure, preeclampsia, sepsis, pneumomediastinum, gall bladder dysfunction, cardiac or liver disorders, neurological disease, hemorrhage, GI ulcer or infection, preterm labor & delivery, PTSD, rhabdomyolysis, severe dental damage, death
- Child Outcome Risks: IUGR, sensory & emotional & neurodevelopmental & behavioral disorders, vitamin K deficient embryopathy, stillbirth

Kimber's RULE OF 2'S

Wean medications for HG:

Wean each medication in 2nd trimester or later

After 2 weeks with minimal symptoms

Over 2+ weeks

HER Foundation

www.Hyperemesis.org
info@Hyperemesis.org

twitter/instagram: @HGmoms
facebook.com/HERFoundation

HER is the global voice of HG