Hyperemesis Gravidarum
See also N/V in pregnancy

Background
1. Definition
   - Persistent nausea and vomiting during 1st trimester complicated by weight loss or failure to gain wt, dehydration, ketosis, and possible electrolyte imbalances

Pathophysiology
1. Pathology
   - Tend to have higher hCG levels which can cause transient hyperthyroidism
   - Multiple unproven theories
     - Elevated estradiol or progesterone levels
     - GI hypersensitivity
     - Olfactory and immunologic changes of pregnancy
2. Incidence, prevalence
   - Severe hyperemesis occurs in 0.3-2% of pregnancies
   - Higher in Western, civilized, and urban population
3. Risk factors
   - Nulliparity
   - Nonsmoker
   - Younger age
   - Hx of gallbladder dz or gastritis
   - Hx of motion sickness or migraine headaches
   - Multiple gestation
4. Morbidity, mortality
   - Loss of 5% of pre-pregnancy weight increases risk of low birth weight and IUGR
   - Micronutrient deficiency and malnutrition syndrome
   - Wernicke's encephalopathy
   - Esophageal rupture

Diagnostics
1. History
   - Excessive N/V
   - Hyperemesis in previous pregnancy
2. Physical exam
   - Weight loss or lack of wt gain
   - Poor skin turgor
   - Dry mucous membranes
   - Weakness and dizziness
   - Orthostatic BP
3. Diagnostic testing
   - Urinalysis for ketones, specific gravity and evidence of UTI
   - Electrolytes and renal function
   - CBC, LFTs
   - Abdominal ultrasound to look at liver, gallbladder and pancreas
Differential Diagnosis
1. Psychiatric
   - Munchausen's syndrome
   - Conversion or somatization disorder
   - Major depressive disorder
2. Medical
   - Reflux esophagitis
   - Gastritis
   - Cholelithiasis/cholecystitis
   - Hepatitis
   - Urinary tract infection
   - Pancreatitis
   - Obstipation/bowel obstruction

Therapeutics
1. May require hospital admission
2. IV hydration
   - 5% dextrose LR or 5% dextrose NS 1-2 liters over 1-2 hours
3. Antiemetics: most class C but considered safe during all trimesters
   - Promethazine (Phenergan) 25 mg IVP
   - Prochlorperazine (Compazine) 10 mg IVP or 25 mg PR
   - Trimethobenzamide (Tigan) 200 mg IM or PR
   - Metoclopramide (Reglan) 10 mg IVP
   - Ondansetron (Zofran) class B - 4-8 mg IV
4. Other initial management
   - May use for milder cases to avoid admission or for after discharge
   - Maintain hydration orally and with oral antiemetics
   - Small frequent feedings with simple carbohydrates
   - Vitamin B6 (pyridoxine) 25 mg PO tid – available in a variety of formulations including popsicles, suckers and liquid
     - Also in combination with antihistamine doxylamine succinate
   - Temporary d/c of prenatal vitamins and avoidance of environmental and food triggers
   - Emetrol (dextrose, phosphoric acid and levulose) OTC, 2 tablespoons PO q3-4 hours prn
   - Limited or experimental methods
     - Pulsed steroids
       - Prednisone 300 mg daily for 3 days, tapered over 1 week or methylprednisolone 16 mg IV/PO q8 hrs for 3 days
     - Acupuncture
       - 6-8 hr sessions twice weekly for two weeks
     - Ginger
     - Intramuscular ACTH injection
Follow-Up
1. Return to office
   - Weekly visits for weight monitoring
   - Can use home weighing scales with phone follow-up if pt stable
   - Earlier return to office for patients with significant weight loss, continued failure to gain
2. Admit to hospital
   - Persistent weight loss with evidence of fetal compromise
   - Recalcitrant dehydration
   - Electrolyte abnormalities

Prognosis
1. Likely to recur in 20% of subsequent pregnancies, compared to 0.7% of women with no Hx

Prevention
1. Taking multivitamin at the time of conception may decrease frequency and severity of nausea and vomiting.

References
2. Funai, Edmund F. "Hyperemesis gravidarum" Up to Date. 2006.

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