Hyperemesis Gravidarum

SESLHDPR/408

Aim:
- Early identification and treatment of hyperemesis gravidarum and escalation of care for patients at risk.
- Early initiation of treatment / clinical care and symptom management within benchmark time.

Assessment Criteria: On assessment the patient should have one or more of the following signs / symptoms:

- Positive βHCG (urine or blood)
- Vomiting
- Nausea
- Dehydration (mild-moderate)
- Dry mucosa
- Postural dizziness

Escalation Criteria: Immediate life-threatening presentations that require escalation and referral to a Senior Medical Officer (SMO):

- Hemodynamic instability
- Severe dehydration
- Pregnancy > 20 weeks gestation
- Headache or Visual Abnormalities
- Abdominal or Epigastric pain
- Fever
- Seizure
- Chest Pain
- Dyspnoea

Primary Survey:
- Airway: patency
- Circulation: perfusion, BP, heart rate, temperature
- Breathing: resp rate, accessory muscle use, air entry, SpO_2.
- Disability: GCS, pupils, limb strength

Notify CNUM and SMO if any of the following red flags is identified from Primary Survey and Between the Flags criteria[1]

- Airway – at risk
  - *Partial / full obstruction*
- Breathing – respiratory distress
  - *RR < 5 or >30 /min*
  - *SpO_2 < 90%*
- Circulation – shock / altered perfusion
  - *HR < 40bpm or > 140bpm*
  - *SBP < 90mmHg or > 140 mmHg*
  - *Postural drop > 20mmHg*
  - *Capillary return > 2 sec*
- Disability – decreased LOC
  - *GCS ≤ 14 or a fall in GCS by 2 points*
  - *Seizure*
- Exposure
  - *Temperature <35.5°C or >38.5°C*
  - *BGL < 3mmol/L or > 20mmol/L*

History:
- Presenting complaint
- **A**llergies
- **M**edications: Anticoagulant Therapy, Anti-hypertensives, Diabetic meds, Analgesics, Inhalers, Chemotherapy, Non-prescription meds, Any recent change to medications
- **P**ast medical, past surgical history and pregnancy history
- **L**ast ate / drank (and what diet has been tolerated) and last menstrual period (LMP) or βHCG result
- **E**vents and environment leading to presentation
- Associated signs / symptoms: urine output, headaches, dizziness and pain, muscle weakness / cramps
- History: Multiple gestation, previous pregnancies (hyperemesis), weight loss >5%, family history, trauma and travel (gastroenteritis and infectious colitis)

Systems Assessment:
Inspection: general appearance, mucosa, eyes (sunken), pallor.
Palpation: peripheral pulse, skin temperature, turgor, blood pressure.

Notify CNUM and Senior Medical Officer (SMO) if any of following red flags is identified from History or Systems Assessment.

- Lethargy / fatigue
- Abdominal pain
- Proteinuria
- Cardiac arrhythmias
- Nausea / protracted vomiting
- Muscle weakness / cramps
- Severe headache
- Severe dehydration
- Confusion / delirium
- Hypotension
- Anuria *(no urine output)*
- Decreased urine output *<80mls over four (4) consecutive hours)*

Investigations / Diagnostics:

Bedside:
- BGL: If < 3 or > 20mmol/L notify SMO
- ECG: [as indicated] look for changes suggesting hypokalaemia or hypocalcemia
- Urinalysis: Ketones, Specific gravity, Protein
- MSU (if indicated)

Laboratory / Radiology:
- **Pathology**: Refer to local nurse initiated **STOP**
  FBC, UEC, LFTs *(moderate-severe dehydration)*
  Group and Hold (if bleeding suspected)
  Blood Cultures (if Temp ≤35 or ≥38.5°C)

	• **Radiology:** Not generally indicated

Nursing Interventions / Management Plan:

Resuscitation / Stabilisation: • Oxygen therapy and cardiac monitor [as indicated] • IV Cannulation (16-18fg if unstable)	**Symptomatic Treatment:** • **Antiemetic:** as per District standing order • **Analgesia:** as per District standing order • **IV Fluids:** as per District standing order
Supportive Treatment: • Nil By Mouth (NBM) or • Trial of Fluids • Monitor vital signs as clinically indicated (BP and postural BP, HR, T, RR, SpO_2)	• Fluid Balance Chart (FBC) • Monitor pain assessment / score • Bowel chart [as indicated] • Consider devices: IDC, Nasogastric tube [as indicated]

Practice Tips / Hints:

- Characterised by persistent vomiting, volume depletion, ketosis, electrolyte imbalance and weight loss >5%.[2]
- Typical presentation at 4-7 weeks after LMP[2]
- Concentrations of sodium, potassium and chloride may be low due to decreased oral intake resulting in hypokalemic alkalosis.[3]
- ECG changes suggesting Hypokalaemia include; ST segment depression, decrease in amplitude of T wave and increase in amplitude in U wave. Arrhythmias may also be present.[4]
- ECG changes suggesting Hypocalcemia include a prolonged QT interval. The patient may also experience hypotension. [5]
- Pre-eclampsia exhibits signs and symptoms of SBP>140mmHg/DBP >90mmHg, proteinuria, excessive oedemaheadache, visual abnormalities, abdominal pain, epigastric pain, chest pain and dyspnoea.
- Observe for ketotic (acetone) breath as suggestive of severe volume depletion.[2]
- Pregnant women should avoid > 12hrs without meals to avoid hypoglycaemia.[3]
- Delay in treatment in hyperemesis can cause intrauterine growth restriction. [3]
- Patient education is important as initial treatment for nausea includes dietary changes and trigger avoidance. [8]
- Patient factsheets can be located through the ECI website or Nausea and Vomiting in Pregnancy

Further Reading / References:

1. SESLHDPR/283 Deteriorating Patients – Clinical Emergence reponse System for the Management of Adult and Maternity Inpatients
2. BMJ Best Practice: Nausea and vomiting in pregnancy
3. UpToDate (2019) Clinical Manifestations and Treatment of Hypokalemia
4. UpToDate (2021) Clinical Manifestations of Hypocalcemia
5. ECI Clinical Resource Tool Pre eclampsia and Eclampsia
6. NSW Ministry of Health Policy - PD2011_064 Maternity - Management of Hypertensive Disorders of Pregnancy
7. ECI Clinical ResourceTool Hyperemesis Gravidarum.
8. UpToDate (2021) Nausea and Vomiting of pregnancy: treatment and outcome

Acknowledgements: *SESLHD Adult Emergency Nurse Protocols were developed and adapted with permission from:*

- Murphy, M (2007) Emergency Department Toolkits. Westmead Hospital, SWAHS
- Hodge, A (2011) Emergency Department, Clinical Pathways. Prince of Wales Hospital SESLHD.

Revision and Approval History

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