Hyperemesis - Management of women requiring hospital admission or outpatient treatment (CG492)

Approval

<table>
<thead>
<tr>
<th>Approval Group</th>
<th>Job Title, Chair of Committee</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity &amp; Children's Services Clinical Governance Committee</td>
<td>Chair, Maternity Clinical Governance Committee</td>
<td>5th July 2019</td>
</tr>
</tbody>
</table>

Change History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author, job title</th>
<th>Reason</th>
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<tbody>
<tr>
<td>6.0</td>
<td>Dec 2016</td>
<td>R Blakely (AN Services Manager), S Sengupta (Consultant Obstetrician)</td>
<td>Reviewed – Pg 2 addition of Buccastem to Management bulleted list and ref to USS</td>
</tr>
<tr>
<td>7.0</td>
<td>Jan 2019</td>
<td>R Blakely (AN Services Manager), S Sengupta (Consultant Obstetrician)</td>
<td>Reviewed, extensive changes throughout to combine existing separate in patient &amp; outpatient protocols and new appendix 1 added</td>
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</table>

*Now includes CG491 Management of Outpatient protocol*
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Overview:
Nausea and vomiting in pregnancy (NVP) affects up to 80% of pregnant women and is one of the most common indications for hospital. Hyperemesis gravidarum (HG) is the severe form of NVP, which affects about 0.3–3.6% of pregnant women.

Definition
NVP should only be diagnosed when onset is in the first trimester of pregnancy and other causes of nausea and vomiting have been excluded.
HG can be diagnosed when there is protracted NVP with the triad of more than 5% pre-pregnancy weight loss, dehydration and electrolyte imbalance.

Diagnosis
An objective and validated index of nausea and vomiting such as the Pregnancy-Unique Quantification of Emesis (PUQE) score can be used to classify the severity of NVP (App II & IV RCOG GTG 69). See Appendix 1 (pg 9).

History
- Previous history of NVP/HG
- Quantify severity using PUQE score: nausea, vomiting, hypersalivation, spitting, loss of weight, inability to tolerate food and fluids, effect on quality of life
- History to exclude other causes: abdominal pain – urinary symptoms – infection – drug history – chronic Helicobacter pylori infection peptic ulcers, cholecystitis, gastroenteritis, hepatitis, pancreatitis, metabolic conditions, neurological conditions and drug-induced nausea and vomiting. Severe abdominal or epigastric pain is unusual in NVP and HG and may warrant further investigation of serum amylase levels and an abdominal ultrasound.

Out-Patient management of Hyperemesis

Purpose
To enable registered midwives who have received the appropriate training and an assessment of competence, by a qualified midwife, to assess and treat selected women presenting with hyperemesis gravidarum in the Day Assessment Unit.
**Scope**

Women attending the Day Assessment Unit for assessment of their vomiting in pregnancy, who are assessed as being suitable for out-patient management.

**Content**

Ambulatory day care management should be used for suitable patients when community/primary care measures have failed and where the PUQE score is less than 13.

1. **Criteria for women who are suitable for out-patient, midwifery led, management**
   - All pregnant women up to 12/40 who have persistent vomiting or reduced fluid intake <500ml/24hours
   - Ketonuria of 2+ or more

2. **Criteria for women who are NOT suitable for out-patient, midwifery-led management and who must be seen by a doctor**
   - Women who present for the first time with nausea and vomiting between 12/40 and 18/40
   - Women who present with vomiting on two or more occasions
   - Women with nitrates in their urine, until UTI excluded
   - Co-existing medical problems – diabetes, thyroid, kidney or heart problems
   - Pre-existing abnormal bloods

**Investigations, initial treatment, Observations and Discharge advice is the same for all women regardless of pathway**

3. **Examination**
   - Temperature
   - Pulse
   - Blood pressure
   - Oxygen saturations
   - Respiratory rate
   - Abdominal examination
   - Weight
   - Signs of dehydration
   - Signs of muscle wasting

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**Author:** Sunetra Sengupta, Rebecca Blakely  
**Date:** July 2019  
**Job Title:** Consultant Obstetrician, AN Services Manager  
**Review Date:** July 2021  
**Policy Lead:** Group Director Urgent Care  
**Version:** V7.0 ratified 5/7/19  
**Location:** Policy hub/ Clinical/ Maternity/ Medical conditions & complications/ CG492
4. **Investigations**
   - Urine dipstick: – quantify Ketonuria as 1+ ketones or more
   - MSU
   - Blood for FBC
   - Urea and electrolytes
   - Full Booking bloods if not yet done using Family origin questionnaire (not to be ordered on EPR)
   - Blood glucose monitoring: – exclude diabetic ketoacidosis if diabetic
   - Ultrasound scan: – confirm viable intrauterine pregnancy – exclude multiple pregnancy and trophoblastic disease
   - In refractory cases or history of previous admissions, check: – TFTs: hypothyroid/hyperthyroid – LFTs: exclude other liver disease such as hepatitis or gallstones, monitor malnutrition – calcium and phosphate – amylase to exclude pancreatitis – ABG: exclude metabolic disturbances to monitor severity

Women with mild NVP should be managed in the community with anti-emetics.

Inpatient management should be considered if there is at least one of the following:

- continued nausea and vomiting and inability to keep down oral anti-emetics
- continued nausea and vomiting associated with Ketonuria and/or weight loss (greater than 5% of body weight), despite oral anti-emetics
- confirmed or suspected comorbidity (such as urinary tract infection and inability to tolerate oral antibiotics).

5. **Anti-emetics**

There are safety and efficacy data for first-line anti-emetics such as antihistamines (H1 receptor antagonists) and phenothiazines and they should be prescribed when required for NVP and HG (Appendix III RCOG GTG 69) in Figure 1 below.

Combinations of different drugs should be used in women who do not respond to a single antiemetic.

For women with persistent or severe HG, the parenteral or rectal route may be necessary and more effective than an oral regimen. Women should be asked about previous adverse reactions to antiemetic therapies.
Figure 1.

Appendix III: Recommended antiemetic therapies and dosages

<table>
<thead>
<tr>
<th>First line</th>
<th>Cyclizine 50 mg PO, IM or IV 8 hourly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prochlorperazine 5–10 mg 6–8 hourly PO; 12.5 mg 8 hourly IM/IV; 25 mg PR daily</td>
</tr>
<tr>
<td></td>
<td>Promethazine 12.5–25 mg 4–8 hourly PO, IM, IV or PR</td>
</tr>
<tr>
<td></td>
<td>Chlorpromazine 10–25 mg 4–6 hourly PO, IV or IM; or 50–100 mg 6–8 hourly PR</td>
</tr>
</tbody>
</table>

| Second line | Metoclopramide 5–10 mg 8 hourly PO, IV or IM (maximum 5 days’ duration) |
|            | Domperidone 10 mg 8 hourly PO; 30–60 mg 8 hourly PR |
|            | Ondansetron 4–8 mg 6–8 hourly PO; 8 mg over 15 minutes 12 hourly IV |

| Third line | Corticosteroids: hydrocortisone 100 mg twice daily IV and once clinical improvement occurs, convert to prednisolone 40–50 mg daily PO, with the dose gradually tapered until the lowest maintenance dose that controls the symptoms is reached |

IM intramuscular; IV intravenous; PO by mouth; PR by rectum.

Clinicians should use anti-emetics with which they are familiar and should use drugs from different classes if the first drug is not effective.

Corticosteroids should be reserved for cases where standard therapies have failed. The suggested dose is intravenous hydrocortisone 100 mg twice daily, and once clinical improvement occurs convert to oral prednisolone 40–50 mg daily PO, with the dose gradually tapered until the lowest maintenance dose that controls the symptoms is reached.

Normal saline with additional potassium chloride in each bag, with administration guided by daily monitoring of electrolytes, is the most appropriate intravenous hydration.

Dextrose infusions are not appropriate unless the serum sodium levels are normal and thiamine has been administered.

Urea and serum electrolyte levels should be checked daily in women requiring intravenous fluids.

Histamine H2 receptor antagonists or proton pump inhibitors may be used for women developing gastro-oesophageal reflux disease, oesophagitis or gastritis.

Thiamine supplementation (either oral or intravenous) should be given to all women admitted with prolonged vomiting, especially before administration of dextrose or parenteral nutrition.

If oral treatment not possible, a single dose of Thiamine 50 mg by slow IV injection (available in Pabrinex IV High potency ampoule No. 1, 5ml)

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Women admitted with HG should be offered thromboprophylaxis with low-molecular-weight heparin unless there are specific contraindications such as active bleeding. Thromboprophylaxis can be discontinued upon discharge.

Women with previous or current NVP or HG should consider avoiding iron-containing preparations if these exacerbate the symptoms.

In women with severe NVP or HG, input may be required from other professionals, such as midwives, nurses, dieticians, pharmacists, endocrinologists, nutritionists and gastroenterologists, and a mental health team, including a psychiatrist.

When all other medical therapies have failed, enteral or parenteral treatment should be considered with a multidisciplinary approach.

All therapeutic measures should have been tried before offering termination of a wanted pregnancy.

Give women the link to RCOG information leaflet ‘Pregnancy sickness (nausea and vomiting of pregnancy and hyperemesis gravidarum)’

6. Discharge Advice
   - Ensure the woman has access to the RCOG information leaflet “Pregnancy sickness (nausea and vomiting of pregnancy and hyperemesis gravidarum)”
   - Advise her to contact the Day Assessment Unit if vomiting persists despite taking anti-emetics.
   - Check that the woman has booked with her midwife and remind her to do so if not already booked. Give her TTO’s
   - Give prescription for Cyclizine 50mg PO TDS for 1/52
   - Send discharge letter to GP
Appendix I: Pregnancy-Unique Quantification of Emesis (PUQE) index

Total score is sum of replies to each of the three questions. PUQE-24 score: Mild = 6; Moderate = 7–12; Severe = 13–45.

<table>
<thead>
<tr>
<th>Motherlikely PUQE-24 scoring system</th>
<th>Not at all (1)</th>
<th>1 hour or less (2)</th>
<th>2–3 hours (3)</th>
<th>4–6 hours (4)</th>
<th>More than 6 hours (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the last 24 hours, for how long have you felt nauseated or sick to your stomach?</td>
<td>7 or more times (5)</td>
<td>5–6 times (4)</td>
<td>3–4 times (3)</td>
<td>1–2 times (2)</td>
<td>I did not throw up (1)</td>
</tr>
<tr>
<td>In the last 24 hours how many times have you vomited or thrown up?</td>
<td>No time (1)</td>
<td>1–2 times (2)</td>
<td>3–4 times (3)</td>
<td>5–6 times (4)</td>
<td>7 or more times (5)</td>
</tr>
<tr>
<td>In the last 24 hours how many times have you had retching or dry heaves without bringing anything up?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PUQE-24 score: Mild = 6; Moderate = 7–12; Severe = 13–45.

How many hours have you slept out of 24 hours? __________ Why? ____________________________

On a scale of 0 to 10, how would you rate your wellbeing? __________

0 (worst possible) → 10 (the best you felt before pregnancy)

Can you tell me what causes you to feel that way? ____________________________

Appendix II: Treatment algorithm for NVP and HG

**Initial assessment:**
- Exclude other causes
- Record PUQE score
- Assess for clinical complications (dehydration, electrolyte imbalance, weight loss)
- Offer advice and support

**PUQE score 3–12 and no complications:**
- Antiemetics in community
- Lifestyle and dietary changes

**PUQE score of 13 or above and no complications and not refractory to antiemetics:**
- Ambulatory day care management until no ketonuria

**Any PUQE score with complications or unsuccessful ambulatory day care management:**
- Inpatient management

**Ambulatory day care management:**
- Fast intravenous hydration with normal saline and potassium (if no contraindications)
- Antiemetics (see Appendix III)
- Thiamine

**Inpatient management:**
- As for ambulatory day care management plus:
  - Thromboprophylaxis
  - Multidisciplinary team approach
  - Consider steroids

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Definitions

Protocols: A set of procedures which are the accepted and expected way of doing something. Protocols set out what staff should do.

Roles and Responsibilities

Midwives are accountable for their practice and are answerable for their actions and omissions regardless of advice or directions from another professional. (NMC The Code 2015)

Midwives are also accountable by understanding and working within locally agreed guidelines.

Consultation Undertaken

This document has been written in consultation with the Obstetricians and Senior Midwives. This protocol will be approved by the Maternity Clinical Governance Committee.

Dissemination/Circulation/Archiving

This protocol is available to all health care professionals and the public via the Intranet Guidelines Management System and is reviewed no less than three yearly

Implementation

Ward managers and consultants will be informed of the new policy, and they will disseminate this information to their staff.

Training

Staff will be given appropriate training by the Antenatal Services Manager or Band 7 midwife. A competency assessment form will be completed by the assessor. This will be kept by the member of staff in their portfolio.

Monitoring of Compliance

<table>
<thead>
<tr>
<th>Aspect of compliance or effectiveness being monitored</th>
<th>Monitoring method</th>
<th>Individual or dept. responsible for the monitoring</th>
<th>Frequency of the monitoring activity</th>
<th>Group/committee which will receive the findings/monitoring report</th>
<th>Committee/individual responsible for ensuring that the actions are completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>How effective is midwifery management of hyperemesis</td>
<td>Audit</td>
<td>Day Assessment Unit</td>
<td>Yearly</td>
<td>Audit committee</td>
<td>Audit committee</td>
</tr>
</tbody>
</table>

Supporting Documentation and References

1. Ogunyemi DA, Michelini GA; Hyperemesis Gravidarum. eMedicine, April 2007 (updated Jan 2017)
### Appendix A – Assessment Form

**Protocol for Out-Patient Management of Hyperemesis**

<table>
<thead>
<tr>
<th>CANDIDATE’S NAME</th>
<th>WARD</th>
<th>DATE</th>
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</table>

**Criteria for assessment:** The midwife is able to demonstrate the skill, knowledge and attitude to safely assess and treat a woman who presents with hyperemesis gravidarum.

<table>
<thead>
<tr>
<th>COMPETENCIES</th>
<th>LEVEL</th>
</tr>
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<tbody>
<tr>
<td>Demonstrates knowledge of trust policy and professional accountability</td>
<td></td>
</tr>
<tr>
<td>Demonstrates knowledge of which women are suitable for midwife management</td>
<td></td>
</tr>
<tr>
<td>Demonstrates which women are NOT suitable for midwifery management</td>
<td></td>
</tr>
<tr>
<td>Demonstrates the ability to examine a woman and carry out all necessary investigations as per protocol</td>
<td></td>
</tr>
<tr>
<td>Demonstrates the ability to administer the correct treatment and carry out the required observations as per protocol</td>
<td></td>
</tr>
<tr>
<td>Demonstrates knowledge of the discharge criteria and exclusions</td>
<td></td>
</tr>
<tr>
<td>Gives the correct discharge information to the woman</td>
<td></td>
</tr>
<tr>
<td>Demonstrates accurate completion of the woman’s records</td>
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</tbody>
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