Whittington Health NHS

Hyperemesis in Pregnancy

Subject:	Hyperemesis in Pregnancy
Ratified By:	Maternity Guidelines and Audit Group
Date Ratified:	May 2015
Version:	2
Policy Executive Owner:	Mr R.Sherwin. WCF Clinical Director.
Designation of Author:	Mr Oliparambil Ashokkumar (Cons), Miss Kirsten Vogt (Cons), Dr Jyoti Sidhu (ST).
Name of Assurance Committee:	Maternity Guideline and Audit Group
Date Issued:	May 2015
Review Date:	May 2018
Target Audience:	Obstetrics and Gynaecology Consultants, Doctors, Gynaecology Nurses, Pharmacists and Midwives
Key Words:	Hyperemesis gravidarum, Pregnancy

Version Control Sheet

Version	Date	Author	Status	Comment
1	2012	Mr Ashokkumar, Miss Vogt Dr Sidhu	Consultants Specialist trainee.	New guideline
2	2015	Mr Ashokkumar, Miss Vogt Dr Sidhu	Consultants Specialist trainee	Review and update.

Criteria for use*:*

For use on all pregnant women diagnosed with hyperemesis.

Background:

Nausea and vomiting occur in **70 - 85%** of all pregnant women. Hyperemesis gravidarum is a severe and intractable form of nausea and vomiting in pregnancy, affecting 3.5 per 1000 deliveries.

The peak incidence is **at 8 - 12 weeks** of pregnancy, and symptoms usually resolve by 20 weeks in all but 10% of patients.

Hyperemesis gravidarum may affect the health and well being of both the pregnant woman and the fetus.

Pathophysiology:

The aetiology is unknown. Popular beliefs are:
* Nausea and vomiting are protective in pregnancy to reduce exposure to potentially teratogenic materials

* Elevated human chorionic gonadotropin or estradiol
* Psychological

Causes:

Genetic component- sisters and daughters of women with hyper emesis have a higher incidence

Association with hyper emesis in prior pregnancy, female gestation, multiple gestation, triploidy, trisomy21, current or prior molar pregnancy and hydrops fetalis

Role of Helicobacter pylori infection is not confirmed

Note: Hyperemesis patients are more likely to be of ethnicity other than **Caucasian** and the patients tend to be younger than 30 years.

Morbidity:

Wernicke encephalopathy from vitamin B-1 deficiency
Other cerebral problems (acute myelinosis) from overenthusiastic correction of hyponatraemia
Mallory- Weiss tears
Pneumothorax
Acute tubular necrosis

Maternal mortality is exceedingly low but not negligible

History:

Nausea and vomiting occur in early pregnancy and are non responsive to simple measures, such as reassurance and dietary changes
Fever and abdominal pain are not characteristic of hyperemesis gravidarum
If vomiting begins after 9 week's gestation, other causes should be investigated

Physical Signs:

Weight loss,
Dehydration – decreased skin turgor,
Postural changes in blood pressure and pulse

Differential diagnosis:

Acute appendicitis
Cholecystitis and biliary colic
Diabetic ketoacidosis
Gastritis and peptic ulcer disease
Stomach cancer
Gastroenteritis
Small bowel obstruction
Ovarian Torsion
Pancreatitis
Urinary tract infection/ Pyelonephritis

Acute fatty liver of pregnancy
Hypercalcaemia
Pre-eclampsia

Investigations:

Serum urea, electrolytes and amylase
Urinary ketones
Mid stream urine
Liver function tests
Full blood count
Thyroid function tests
Serum calcium

Ultrasound to exclude molar pregnancy and multiple pregnancies

Gastroscopy/ upper abdominal USS- may be indicated if the history is atypical: if the vomiting gets severe and persists beyond 16 to 18 weeks. There are reported cases of carcinoma of stomach in pregnancy.

Management:

Dietary modifications and non-pharmacological treatment: Avoid bad odours
Eat when you can
Eat small meals often (every two hours)
Don't overeat at meals
Separate solid and liquid food by at least 2 hours
Eat bland foods, Avoid rich, fatty foods
Try to eat food cold or at room temperature
The BRATT diet (Banana, rice, applesauce, toast and tea) may help
Sit upright for 45 minutes after eating
Avoid caffeine, alcohol and tobacco
Ginger 250 mg four times daily may help

Foods, which appeal to pregnant women and are likely to be tolerated:
Juices
Crisps and dry crackers
Brown rice,
Celery sticks
Fruity ice lollies

Gelatin desserts
Chicken broths
Ginger ale
Sugared decaffeinated teas
Lemonade
Mushroom soup

First line treatment involves rest and avoidance of sensory stimuli that may act as triggers.
Frequent small meals with avoidance of spicy or fatty foods and increasing high protein snacks.

Replace fluids IV – Normal saline/ Hartmanns – continue treatment until the patient can tolerate oral fluids.
Use pre-prepared potassium containing IV fluids, if appropriate
Infusion of dextrose containing fluids should be avoided in the initial resuscitation of acute disease as it can precipitate Wernicke's encephalopathy.
Care should be taken to avoid fluid overload.

During daytime hours management should occur on the Hyperemesis Day Unit (located on Betty Mansell Ward).
Out of hours initial management can be instigated in A&E and should include

- IV access
- Bloods & MSU (see Investigations)
- IV fluids
- Anti-emetics

Patients with refractory symptoms following 2-3L IV fluids should be referred to the Gynae Registrar on-call and admission considered.

If tolerating oral fluids and otherwise stable the patient can be discharged with a Hyperemesis information leaflet and contact details for the Hyperemesis Day Unit.

Thiamine therapy:

Thiamine therapy is mandatory for any patient admitted with hyperemesis.

Thiamine hydrochloride - 25 - 50 mg tds orally or
- 100 mg diluted in 100 ml of normal saline
Over 30 - 60 minutes weekly

Antiemetics:

Drugs of choice:

Drug	Dose	Route	Side effects
Cyclizine	50 mg T.D.S	PO/PR/IM	Drowsiness, blurred vision
Metoclopramide	10 mg T.D.S	PO/IM	Extrapyramidal effects, hyperprolactinaemia

Alternative drugs:

Drug	Dose	Route	Side effects
Promethazine	50 mg O.D	PO/IM	Sedation
Stemetil	5 mg T.D.S	PO	Extrapyramidal effects
Chlopromazine	10 mg T.D.S	PO/IM	Extrapyramidal effects

Note: Ondansetron may be prescribed on consultant request.

All of the above drugs are thought to be safe in early pregnancy.
Metoclopramide, Cyclizine and should be the first drugs of choice unless there is a contraindication to use them.
If extra pyramidal symptoms treat with Procyclidine hydrochloride: 5 mg IM maximum up to 20 mg daily.

In a subgroup of women improvement may only occur by combining 2 different classes of anti-emetics (although polypharmacy is generally avoided).

Indication for steroids:

If admission, IV fluids and antiemetics fail to control vomiting consider steroids before parenteral nutrition.
Steroids should only be commenced following discussion with a consultant (preferably including the Obstetric Medicine consultant).
Steroids should be used with caution and avoided before 10 weeks gestation due to the possible association with cleft palate.

If weight loss > 5% consider the addition of multivitamins/magnesium, pyridoxine and /or thiamine.

Corticosteroids:

Hydrocortisone 100 mg BD if IV is needed. Then switch to oral prednisolone 10 mg three time's day. The dose should be tapered but only too the minimum that will stop vomiting. This may need to be continued throughout pregnancy.

Role of Acupuncture:

Stimulation of acupuncture point P6 can relieve nausea

Indications for admission to the Hyperemesis Day Unit:

Dehydration and inability to tolerate oral fluids
Significant ketonuria (more than 2 plus)
Persistent abnormal vital signs like tachycardia, hypotension
Severe electrolyte abnormality
Infection
Malnutrition and weight loss

If unable to tolerate oral fluids or otherwise unwell by 19:00 overnight admission should be arranged on Betty Mansell Ward.
Admission unlikely to be necessary for hyperemesis gravidarum in the absence of ketonuria.
If admission is required the patient should be weighed daily and appropriate thromboprophylaxis prescribed following VTE assessment.

Complications:

Mallory- Weiss tears
IUGR and Preterm birth
Wernicke encephalopathy – diplopia, nystagmus, disorientation, confusion, coma
Complications of prolonged dehydration and starvation

Role of Total Parenteral Nutrition:

Parenteral nutrition carries risk, is costly and is usually reserved for extremely severe life-threatening cases.
Great care should be taken to assess the need for parenteral therapy, as it is associated with significant serious complications.

Outcome of pregnancies complicated by hyperemesis gravidarum:

The adverse infant outcomes associated with women with poor maternal weight gain.
Severe hyperemesis during pregnancy can lead to preterm delivery, prematurity and low birth weight babies.

Contacts:

Consultant obstetrician/ gynaecologist on call (via switch)
Gynaecology SpR on call (via switch)

References:

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		Yes/No	Comments
1.	**Does the procedural document affect one group less or more favourably than another on the basis of:**		
	Race	No	
	Ethnic origins (including gypsies and travellers)	No	
	Nationality	No	
	Gender	No	
	Culture	No	
	Religion or belief	No	
	Sexual orientation including lesbian, gay and bisexual people	No	
	Age	No	
	Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title -** Hyperemesis in Pregnancy		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	N/A	
	Are supporting documents referenced?	N/A	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be held?	Yes	
9.	**Process to Monitor Compliance and Effectiveness**		
	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes	
	Is there a plan to review or audit compliance with the document?	Yes	
10.	**Review Date**		

	Title of document being reviewed:	Yes/No	Comments
	Is the review date identified?	Yes	
	Is the frequency of review identified? If so is it acceptable?	Yes	
11.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes	

Executive Sponsor Approval			
If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval			
Name		Date	
Signature			
Relevant Committee Approval			
The Director of Nursing and Patient Experience's signature below confirms that this procedural document was ratified by the appropriate Governance Committee.			
Name		Date	
Signature			
Responsible Committee Approval – only applies to reviewed procedural documents with minor changes			
The Committee Chair's signature below confirms that this procedural document was ratified by the responsible Committee			
Name		Date	
Name of Committee		Name & role of Committee Chair	
Signature			

The guideline will be audited:

Continuous rolling audit	[ ]
Yearly	[ ]
Six monthly	[ ]
Individualised review date if	
Low frequency procedure or condition	[x]

The guideline will be disseminated:

1. Electronically via the Whittington Intranet> Guideline > Maternity section
2. All staff notified of new guidelines via e-mail and departmental newsletter
3. All staff made aware of guidelines and how to access them at induction

Presentation of the audits will be made to:

Departmental audit meeting	[x]
Perinatal Meeting (Monday)	[x]
Other	[ ]

Reports of the completed audits will go to:

Labour Ward Forum	[x]
Labour Ward Management Group	[ ]
Clinical Risk Group	[ ]
Women's Health Clinical Governance Group	[ ]
Trust Clinical Governance Group	[ ]

Audit Tool - Hyperemesis in Pregnancy

Standard 1		Assessment	Time frame
	For all women seen with Hyperemesis in pregnancy all other differential diagnosis' are considered and ruled out	By case note audit □ yes □ no	Yearly

Standard 2		Assessment	Time frame
	For all women seen with Hyperemesis in pregnancy all recommended investigations including ultrasound are undertaken	By case note audit □ yes □ no	Yearly

Standard 3		Assessment	Time frame
	During Daylight hours women are seen in the Hyperemesis Day Unit	By case note audit □ yes □ no	Yearly

Standard 4		Assessment	Time frame
	Thiamine hydrochloride is commenced for all women admitted with Hyperemesis	By case note audit □ yes □ no	Yearly

Standard 5		Assessment	Time frame
	Women admitted for overnight treatment appropriately	By case note audit □ yes □ no	Yearly

Appendix 7 – Monitoring Tool

Element to be monitored	Lead	Tool	Frequency	Reporting arrangements	Acting on recommendations and Lead(s)	Change in practice and lessons to be shared
Ensure all women seen with Hyperemesis in pregnancy all other differential diagnosis' are considered and ruled out Ensure all women seen with Hyperemesis in pregnancy all recommended investigations including ultrasound are undertaken Ensure Thiamine hydrochloride is commenced for all women admitted with Hyperemesis	Mr O. Ashokkumar. Consultant Gynaecologist and Obstetrician.	Audit Tool	As clinically indicated.	These reports will be reviewed by the Maternity Clinical Guidelines and Audit Group. It is their responsibility to monitor the findings from each report. Evidence to support this will be found in the form minutes. Key factors to be noted are: -Audit findings -Deficiencies -Whether this is improvement from previous audit findings -Action planning with a named person who is responsible -Next date where an update will be given and by whom	The Maternity Clinical Guidelines and Audit Group are responsible for ensuring that any action planning/recommendations are instigated one month hence of the report being identified. Individual objectives/dates of review will be identified as required	Required changes to practice will be identified and actioned as soon as possible, specific dates to be identified in the action plan Ms C Biswas is responsible for ensuring that this happens Findings will be disseminated to staff via already established routes eg email, audit days, perinatal meetings, newsletters, notice-boards. This audit will be presented at the next Labour Ward Forum (quarterly meeting) which has user representation in attendance