PE1454/F

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Scottish Parliament Public Petitions Committee

3rd February 2013

Ref: PE 1454 Hyperemesis Specialist Nurses

Information about the charity

Thank you for asking the Pregnancy Sickness Support Charity for our response.

We are a charity offering support and information to women suffering from this under appreciated and under researched condition. When women become dehydrated and need hospital admission because of severe pregnancy sickness, the condition is called hyperemesis gravidarm.

Information is provided through our website and information leaflets.

Support is provided by our network of volunteers, who are women who have suffered from the condition themselves.

The charity in Scotland

- Heather Miranda is our volunteer and team leader in Scotland. Her email is: heathermiranda@hotmail.co.uk

- Dr Margory Maclean, Consultant Obstetrician at NHS Ayrshire & Arran, has been very active in promoting the importance of good care for women with severe pregnancy sickness in Scotland. She has developed a protocol for the inpatient management of women with hyperemesis gravidarm which she is trying to get

adopted by other hospitals in Scotland. I have included her protocol as a separate attachment to this letter/email. As a charity we feel it is would be very important for the committee to take evidence and advice from her. Her email is Marjory.MacLean@aaaht.scot.nhs.uk

Information about HG

- Hyperemesis gravidarm affects around 1 in 100 pregnancies (1%) (estimates in the research literature vary across the world from 0.5% to around 1.5%
- The condition can become so severe that some women consider termination of pregnancy.
- Before the advent of intravenous fluid replacement therapy the condition could be fatal. The last recorded death from HG in the UK was in the 1930's
- In England there were 25420 admissions to hospital because of HG in 2007 (numbers in Scotland are not known, as far as I am aware)

INTRAVENOUS THERAPY (IV) IN HG

- When a woman becomes very ill and dehydrated with severe pregnancy sickness symptoms she needs intravenous (iv) fluid replacement.
- It has been usual in the past for such women to be admitted to hospital for a few days for iv fluids. However the admission itself can cause extra strain and pressure on the women as she is separated from her family and any other children she might have.
- To overcome this some hospitals have developed protocols and facilities to enable women to be admitted as a day case for iv fluids which are given in an out patient setting starting at say 9am and allowing the women to go home at say 5pm. Such day treatment may need to be repeated for several days.
- Some areas in England, (e.g in Cornwall) have nurses who have been trained to provide an iv infusion service in patients homes. IV therapy for cancer chemotherapy for example may be given by these iv nurses. Some women with HG

have had iv fluids given at home by these nurses. As a charity we are preparing an information pack to be used in teaching these iv nurses about HG and the tremendous benefit that iv treatment without the need for admission can bring.

HYPEREMESIS SPECIALIST NURSES

- Women with HG report to the charity very mixed experiences when they are admitted. Some say that healthcare professionals seem to have very little understanding of HG and the needs of those suffering with the condition

CONCLUSION

As a charity we would support this petition PE 1454.

We would be happy to provide any further information that the committee feels that it needs.

Using the experience of the charity we could offer help in developing training for hyperemesis specialist nurses

Professor Roger Gadsby MBE FRCGP

Chairman of the Trustees of Pregnancy Sickness Support Charity

(Charity number 1094788)

Email rgadsby@doctors.org.uk

Attachments

1 NHS Arran & Ayrshire HG Protocol

Guideline for inpatient management of pregnant women with nausea, vomiting and severe hyperemesis

EPAS Guideline 12

Version No:	
	Number 1.0
Prepared By:	
	Marjory MacLean, Elaine Pirie, Lynne McNeil
Effective From:	
	5th April 2012
Review Date:	
	March 2014
Lead Reviewer:	
	Lead clinician EPAS
Dissemination Arrangements:	

- Policy Distribution List
- NHS Ayrshire and Arran Intranet
- Others, as relevant

Guideline for management of women in pregnancy with nausea, vomiting and hyperemesis

1.0 Introduction

Hyperemesis can be a serious medical condition leading to pregnancy and medical complications if not managed appropriately.

2.0 Purpose of the Guideline

a) To reduce the incidence and severity of nausea, vomiting & hyperemesis in pregnancy
b) To support women suffering from this condition
c) To minimise adverse effects of treatment and possible teratogenic effects on the fetus
d) To reduce rates of admission and readmission to hospital and duration of hospital stay
e) Reduce readmission whenever possible by appropriate treatment
f) To avoid maternal morbidity and mortality from hyperemesis

3.0 Scope of the Guideline

Guideline should be used by staff in EPAS and AMU inpatient wards including midwives and doctors.

4.0 Definition of abbreviations

AMU	Ayrshire Maternity Unit
BP	blood pressure
CKS	clinical knowledge summaries
EPAS	early pregnancy assessment service
FBC	full blood count
HEG	hyperemesis gravidarum
IM	intramuscular
IV	intravenous
KCl	potassium chloride
LFT	liver function tests
mg	milligrams
MSSU	mid stream specimen of urine
MUST	Malnutrition Universal Screening Tool
No	number
PEG	percutaneous endoscopic gastrostomy
RCOG	Royal College Obstetricians and Gynaecologists
SC	subcutaneous
TED	thrombo embolus deterrent
TFT	thyroid function tests
U&E	urea and electrolytes

5.0 Guideline Content

5.1 Definition of Hyperemesis

Hyperemesis is a diagnosis of exclusion characterised by prolonged and severe nausea and vomiting in pregnancy leading to fluid and electrolyte disturbances and nutritional deficiencies [1]. It causes weight loss[12], dehydration and ketonuria and occurs in up to 0.5 - 1% of pregnancies. In most cases the cause is unknown[2].

It is classified as severe if hospital admission plus:-

a) weight loss >5%

b) onset of nausea and vomiting prior to 6 weeks gestation

c) ketonuria on admission

d) iv fluids for >1 week or >24 hours if a repeat admission

e) vomiting at least twice per day or severe nausea precluding oral intake[3].

Diagnosis should be made after excluding other causes of vomiting, especially urinary infection[1]. Consider reflux oesophagitis, peptic ulceration, enteric infection, hepatitis, hypercalcaemia, raised intracranial pressure and other conditions as causes of vomiting which may occur in pregnancy.

5.2 Investigations

Weight of patient

Urinalysis

FBC, U&E (consider taking routine bloods performed at antenatal booking if not already done)

LFT, TFT

Calcium & phosphate levels if severe

Blood glucose

MSSU

5.3 General Management

Mild - Moderate

Small, high carbohydrate, low fat, frequent meals

Fluid replacement

Acupressure

Consider prescribing an antiemetic

Moderate - Severe

Admit to hospital

Investigations as above

Explanation to patient of nature and natural history of hyperemesis

Weight, pulse, lying and standing BP

Fluid replacement – commence accurate fluid balance chart

Commence antiemetics

Treat symptoms of acid reflux with ranitidine

TED stockings

Consider thromboprophylaxis – see Protocol H1 on Athena
http://athena/cwshs/Maternity/Maternity%20Library/Protocols/ProtocolH01.doc

RCOG advises mobilisation and avoidance of dehydration unless 2 or more risk factors along with hospitalisation when thromboprophylaxis should be commenced [4].

Ultrasound scan to exclude molar pregnancy and multiple pregnancy – no urgency for this.

Urinalysis should be performed daily until there is no ketonuria.

A 'Malnutrition Universal Screening Tool Multidisciplinary Care Plan' should be commenced on admission.
http://athena/pdu/Documents/Combined%20care%20plan%20colour%20version%2024%204%2009.doc

5.4 Fluid management

If significant ketonuria, give 1000ml 0.9% sodium chloride without potassium intravenously over 4hours. Thereafter fluids should be reduced to 500ml 4-6 hourly, the regime being guided by U&E results which should be performed daily.

Trust guidelines for use of iv KCl should be followed[5].
http://athena/adtc/DTC%20%20Clinical%20Guidelines/MRPG07.pdf

Avoid glucose initially as it contains insufficient sodium and especially as Wernicke's encephalopathy may be precipitated unless thiamine is given first. However, once rehydration is complete and thiamine (see section 5.9) has been given, alternating 10% Dextrose with 0.9% sodium chloride allows very useful provision of calories (Prof Roy Taylor, Professor of Medicine and Metabolism, Director, Magnetic Resonance Centre, University of Newcastle, author of reference 3 and 11, personal communication by email to Dr Marjory MacLean 6/2/2011).

NB **KCL should not be added to iv fluids – use prepared bags from pharmacy. Mistakes are liable to happen with serious consequences.**

5.5 Antiemetics [6, 12]

It should be noted that no medication is licensed for treatment of hyperemesis in UK [7]

Please refer to Ayrshire & Arran Code of Practice Section 9a - Unlicensed Medicines, for further information
http://athena/adtc/DTC%20%20Code%20of%20Practice/ADTCMG09(a)01.pdf

The first dose should be by intramuscular injection and then if tolerated, oral therapy can be continued. This should be on a regular basis and not as required. (See Appendix 2)

First line (antihistamines)

Cyclizine	50mg three times a day	oral, im, iv
OR		
Promethazine Teoclate (Avomine)	25mg three times a day (up to 100mg). Consider start dose of 25mg at night.	oral, im

Second line (dopamine antagonists) in recommended order

Prochlorperazine	3-6mg two times a day	buccal
	5-10mg two-three times a day	oral
	12.5mg three times a day	im
OR		
Metoclopromide	10mg three times a day (maximum dose 5mg if aged 15-20 or weighs <60kg)	oral, im or s/c
OR		
Chlorpromazine	10-25mg three times a day	oral
	25mg three times a day	im

Third line (discuss with consultant)

Levomepromazine [9]	6.25mg three times a day	im
OR		
Ondansetron	4-8mg twice a day	slow iv, im oral

Pyridoxine (Vitamin B6)

Recent papers in the BMJ and 'The Obstetrician and Gynaecologist' reviewing several studies has suggested that up to 40mg pyridoxine is effective in treating nausea[10, 12]. Discuss with consultant before commencing.

5.6 Oculogyric Crisis

This is an extrapyramidal reaction to prochlorperazine or metoclopromide

Treat with procyclidine (Kemadrin) 5mg im or iv. Repeat after 30 minutes if needed.

5.7 Other useful drugs in hyperemesis if reflux, heartburn or oesophagitis

First line		
ranitidine	150mg twice a day	oral
or ranitidine	50mg every 6-8 hours	im
Second line		
omeprazole	20mg once a day	oral

5.8 Corticosteroid therapy [11, 3]

This is reserved for women with severe hyperemesis and should be discussed with a consultant (see flow chart, appendix 1 – Newcastle guideline for management of hyperemesis).
The use of steroids should be coupled with the wider management of the patient as above.

Regime can be flexible:

Hydrocortisone 50mg three times a day intravenously if unable to tolerate oral.
Can increase to 100mg three times a day if required

Prednisolone 10mg three times a day orally to start
May need to be increased up to 20mg three times a day
Reduce prednisolone over subsequent weeks eg reduce midday dose by 5mg, followed by evening dose, followed by morning dose every 72 hours.
Aim for a maintenance dose eg prednisolone 15-20mg daily within 5 weeks; then 12.5 – 15mg per day for further 3-8 weeks.
Return to previous dose if vomiting recurs after dose reduction.

The dose can be increased if vomiting recurs. Treatment may be required for several weeks (median 10 weeks).

A weaning regime must be implemented if steroids are used for more than 2 weeks. If steroids are used long term (>4 weeks) screening for urinary tract infection and gestational diabetes should be instituted.

Chronic exposure to high dose steroids in pregnancy may cause fetal / neonatal adrenal suppression. The infant should be monitored during the neonatal period[6].

5.9 Thiamine [6]

Thiamine (Vitamin B_1) supplementation has no antiemetic properties but should be given to prevent Wernicke's encephalopathy, after discussion with a consultant. Normal stores of thiamine are depleted after 2 weeks of persistent vomiting. This is aggravated by abnormal LFTs.

Thiamine can be given orally as thiamine 25-50mg three times a day, or intravenously as Pabrinex No 1 and No 2 ampoule diluted in 100ml sodium chloride 0.9%, infused over 30 – 60 minutes and given weekly.

With prolonged vomiting consideration should be given to adding in multi-vitamins.

5.10 Dietician Referral
This should be considered if repeated admissions, over 2 weeks vomiting, symptoms are unresolved after admission for one week, significant weight loss (>5% of pre-pregnancy weight).

5.11 Enteral and Parenteral nutrition
In severe cases when all above lines of management have been fully employed without food being restored, nasogastric feeding, total parenteral nutrition or PEG feeding may rarely need to be considered.

5.12 Alternative therapies (for mild symptoms) [6, 12, 13]
Ginger – sources found in normal diet
Pyridoxine (vitamin B6) 10-30mg daily – useful in reducing nausea but not vomiting. (See section 5.5)
P6 wrist acupressure – wrist bands

5.13 Psychological support [2]
Psychological and emotional support with reassurance and encouragement is vital [12]. Psychotherapy, hypnotherapy and behavioural therapy have been reported to contribute to treatment. The 'Pregnancy Sickness Support Group' information should be offered www.pregnancysicknesssupport.org.uk

5.13 Discharge
When the patient's condition has improved, she may be discharged.

- There should be no ketones in the urine
- The patient should be tolerating fluids and possibly foods
- Appropriate anti-emetics should be prescribed to be taken regularly at home

6.0 Related NHS Ayrshire & Arran Documents
Click on the guideline to open the link to the document:

Guideline for use of intravenous potassium chloride in adults

Thromboprophylaxis in pregnancy

MUST multidisciplinary care plan

Code of practice for unlicensed medications

7.0 References

1. Festin M.Nausea and vomiting in early pregnancy. www.clinicalevidence.bmj.com/ceweb/conditions/pac/1405/1405_background.jsp
2. Neill AM, Nelson-Piercy C. Hyperemesis Gravidarum. The Obstetrician and Gynaecologist, 2003; 5: 204-207.
3. Moran P, Taylor R. Management of hyperemesis gravidarum: the importance of weight loss as a criterion for steroid therapy. QJM 2002; 95 153-158.
4. http://www.rcog.org.uk/files/rcog-corp/GT37ReducingRiskThrombo.pdf
5. Potassium guideline on Athena http://athena/adtc/DTC%20%20Clinical%20Guidelines/Potassium%20chloride%20(intravenous)%20guidelines%20(adults).pdf
6. UK Teratology Information Services – Treatment of Nausea and Vomiting in Pregnancy, March 2010
7. Gadsby R. Nausea and vomiting in pregnancy: an overview. British Journal of Sexual Medicine, 2010; 14-15.
8. Briggs GG, Freeman RK, Yaffe SJ. Drugs In Pregnancy and Lactation. 6th edition 2001
9. Heazell AAEP, Langford N, Judge JK, Haezell MA, Downey GP The use of levomepromazine in hyperemesis gravidarum resistant to drug therapy – a case series. Reproductive Toxicology 2005; 569-572
10. Gadsby R, Barnie-Adshead T. Severe nausea and vomiting of early pregnancy: should it be treated with appropriate pharmacotherapy. The Obstetrician and Gynaecologist 13; 107-111.
11. Al-Ozairi E, Waugh JJS, Taylor R. Termination is not the treatment of choice for severe hyperemesis gravidarum: Successful management using prednisolone. Obstetric Medicine 2009; 2:34-37.
12. Jarvis S, Nelson-Piercy C. Management of nausea and vomiting in pregnancy. British Medical Journal 2011; 342: 1407-1412.
13. NICE guideline 62 Antenatal Care http://www.nice.org.uk/nicemedia/live/11947/40115/40115.pdf

Useful websites for patient information

- www.hyperemesis.org
- www.pregnancysicknesssupport.org.uk
- Clinical Knowledge Summaries (CKS): http://www.cks.nhs.uk/patient_information_leaflet/pregnancy
- Link to Athena for MUST multidisciplinary care plan: http://athena/pdu/CIUforms/MUSTcp.doc

Appendix

1 Newcastle algorithm for Steroid management of severe HEG (reference 10&11)
2 Newcastle Guideline for management of hyperemesis (reference 10&11)

Write or attach label

HCR No: ……..……..
CHI No: ……
Surname: ……..……..
Forename: ……..…… Sex: ……
Address: ……..……...
……
Date of Birth: ……...

NHS Ayrshire & Arran

Malnutrition Universal Screening Tool
(MUST) Multidisciplinary Care Plan

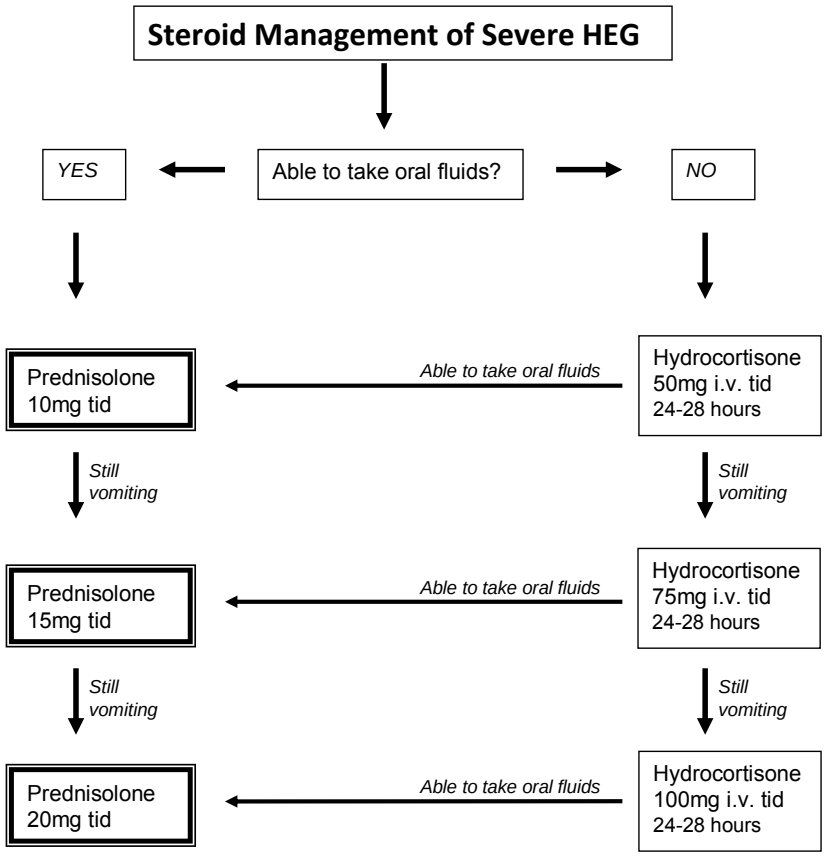
Patient Problem/Need							
Nutritional screening has identified patient as being at	Low		Medium		High		risk of malnutrition.

Goal
To meet patients nutritional and fluid requirements. To prevent weight loss and promote weight gain, as appropriate.
For Low Risk patients consider interventions in the green section of the care plan as appropriate.
For Medium Risk patients follow interventions in the green and yellow sections of the care plan.
For High Risk patients follow interventions in the green, yellow and red sections of the care plan.
Allied Health Professionals follow interventions appropriate to speciality on the reverse of the form.

Date	Time	Intls		Planned Nursing Interventions	Discontinued Date/Time	Intls
				Low Risk Care Plan -		
				Monitor and review care plan and repeat screening weekly, or monthly if in continuing care.		
				Consider individual and/or therapeutic dietary requirements.		
				Assist patient to select appropriate meals from menu card.		
				Provide encouragement and assistance with eating and drinking as required.		
				Ensure fresh drinking water is offered regularly and available at all times, where clinically appropriate.		
				Consider patient's positioning and support oral hygiene, if required		
				This care plan has been discussed and agreed with the patient as appropriate.		
				Medium Risk Care Plan		
				Commence food chart for a minimum of 3 days. Only discontinue if/when dietary intake is adequate.		
				If intake is insufficient, offer patient full cream milk or suitable alternative to drink with and between meals and suitable additional snacks.		
				Record accurate fluid intake/output on fluid balance chart until established that oral intake is adequate. If intake per 24hrs is inadequate, consider IV/SC fluids.		
				Monitor and review care plan and repeat screening weekly.		
				High Risk Care Plan		
				Refer to Dietitian, ensuring the 'MUST' score is included.		
				Monitor and review care plan and repeat screening weekly.		
				Discontinue food chart only when advised by Dietitian		

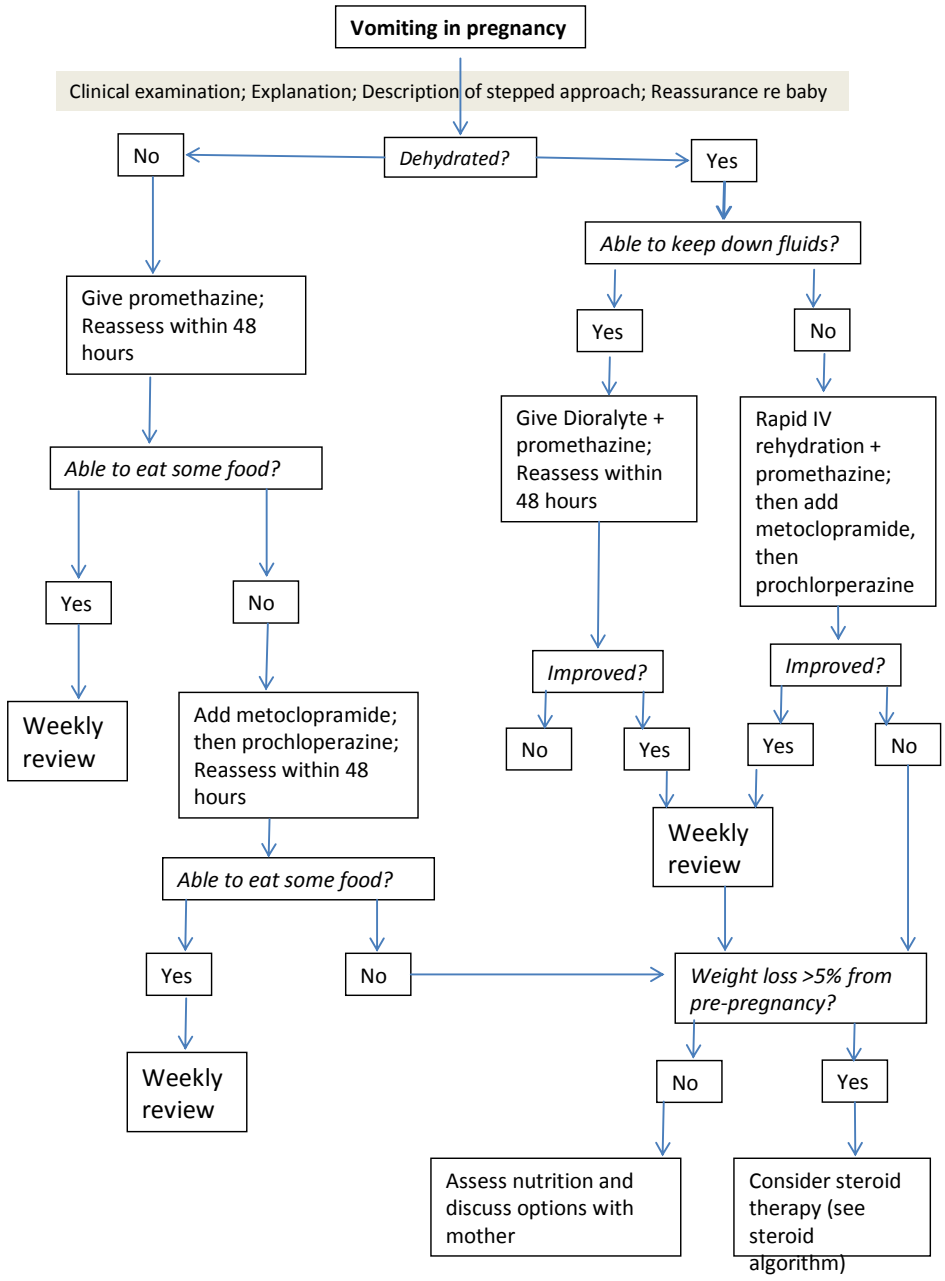
Date	Time	Intls			Discontinued Date/Time	Intls
				Dietetic Intervention		
				Document outcome of dietetic assessment.		
				Estimate patient's daily protein, energy and fluid requirements.		
				If nutritional requirements cannot be met orally, consider artificial nutritional support with the multi-disciplinary team and the patient/carer.		
				Provide patient and carer if appropriate, with nutritional advice and support which meets their individual needs.		
				Nutrition Support Team (NST) Intervention		
				Document the outcome of NST assessment by team member.		
				Document required actions and inform patient and multi-disciplinary team as appropriate.		
				Speech and Language Therapy (SLT) Intervention		
				Document outcome of SLT swallowing assessment.		
				Document the recommended compensatory strategies/modified diet as appropriate. Ensure patient and multi-disciplinary team are aware.		
				Occupational Therapy (OT) Intervention		
				Document outcome of OT assessment.		
				Document any additional requirements and inform patient and multi-disciplinary team as appropriate.		
				Dental Intervention		
				Document the outcome of Dental assessment/consultation.		
				Document any required actions and inform patient and multi-disciplinary team as appropriate.		
				Physiotherapy Intervention		
				Document the outcome of Physiotherapy assessment.		
				Document any required actions and inform patient and multi-disciplinary team as appropriate.		

Appendix 1: Newcastle algorithm for Steroid management of severe HEG [10,11]



See text for details of overall management and decreasing dose regimen.
[Need to acknowledge prior publication of this algorithm in Al-Ozairi et al 2009]

Appendix 2: Newcastle guideline for management of hyperemesis [10,11]



NB This is not a complete description of management. See text.