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Case: Hyperemesis Gravidarum

Candidate brief

You are an F2 working in the GP surgery .

Please take a focused history from Annabel Jones, a 29-year-old female who has presented with nausea and vomiting

15 mins	1. Please take a focused history (7 mins) 2. Discuss with the examiner (5 mins) 3. Counsel the patient and explain the management plan (3 mins)
10 mins	1. Please take a full history (7 mins) 2. Viva with the examiner afterwards (3 mins)

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Reviewers: Dr Jhia Teh, FY1, Hillingdon Hospital NHS Trust

Patient Brief

(Do not volunteer information unless asked)

Name: Annabel Jones
DOB: 7/04/1981 (29 years old)
Job: Lawyer
Opening statement: "*I've been vomiting a lot and feel really nauseous*"

HPC:
Nausea and vomiting

- Started **one week ago**
- At first was vomiting once or twice a day, it got worse, now she is **vomiting 8-9 times a day**

Associated symptoms

- Severe heartburn
- No abdominal pain
- No change in bowel habits or urinary symptoms
- No fever, no weight loss, no night sweats
- Cannot keep any food or drink down
- Extremely distressed

Obs Hx

- 1 pregnancies in the past – TOP at 4 weeks gestation when she was aged 20
- No nausea or vomiting at that time

Gynae Hx
Period: Last menstrual period: 6 weeks ago

- She has regular periods, usually 4 days in length
- No intermenstrual bleeding
- No post-coital bleeding
- No pain or discharge

Smears: up to date
STIs: nil previous
Contraception: uses condoms

PMHx – nothing

DHx – nothing**, NKDA**

FHx – nothing

SHx – lives with boyfriend (regular sexual partner), non-smoker, social drinker

Ideas: worried if it's food poisoning, also worried she may be pregnant

Concerns: very distressed by the vomiting, can't go into work, can't keep anything down

Expectations: does not want to be pregnant

Investigations findings (Provide it after history taking or to enquire candidate about differential diagnosis and what to do next)

INVESTIGATIONS:
ABCDE approach, candidate should be looking for signs of dehydration

O/E:

- Reduced skin turgor
- Dry lips and mouth

Baseline observations:
HR: 85bpm
BP: 99/58

Urine: Beta-HCG positive, ketones +++

Bloods: Have been sent off, awaiting results (FBC, U&E)

Pelvic ultrasound scan: shows **intrauterine pregnancy of 6 weeks**

Examiner Brief

Candidate Brief:
You are an F2 working in the GP surgery .
Please take a focused history from Annabel Jones, a 29-year-old female who has presented with nausea and vomiting

15 mins	1. Please take a full history (7 mins) 2. Viva with the examiner (4 mins) 3. Counsel the patient on the management plan (4 mins)
10 mins	1. Please take a full history (7 mins) 2. Viva with the examiner afterwards (3 mins)

- **Please do not** provide **any verbal or non-verbal feedback** for the candidate. This includes nodding to correct answers and shaking head to wrong answers - particularly during the viva.
- **Please provide positive and negative feedback** (both verbal and written) at the end of the session once the examination is complete.
- The questions below are provided as a guide for discussion only. For viva, please ask questions surrounding the case and challenge the candidate where appropriate

Examiners will grade the performance across four domains: **(15 minute station)**

1. Clinical skills
2. Formulation of clinical issues
3. Discussion of management
4. Professional behaviours and patient centred approach

Positive descriptors		**Marks**
History/Clinical skills (18)		
Appropriate introduction, elicit patient details and invite consultation		2
Nausea and vomiting: Onset, Severity, and Progression. Quantifies severity (PUQE score): how much nausea and vomiting, any weight loss, change in bowel habit, red flag symptoms		3
History to exclude other causes – abdominal pain, urinary symptoms, infection, drug history		2
Menstrual history – **LMP** (eliciting whether a pregnancy would be first trimester), regularity of periods and characteristics		2
Gynaecological history – **contraception**, STIs, cervical screening		2
Presence of risk factors: Family history of hyperemesis gravidarum, previous history of NVP in previous pregnancies		2
Obstetric history – Gravity, Parity, outcome of pregnancies, previous history of NVP/HG		2
Elicits whether there is inability to tolerate food and fluids, effect on quality of life		2
Past medical (surgical) history; drug history, family history, social history		1
Formulation of clinical issue (5)		
Summary and **interpretation** of clinical findings **accurately**		2
Good range of differential diagnoses		1
Viva		2
Discussion of management (4)		
Build patient concerns into plan and Justify choice of investigations		2

Demonstrate MDT approach -		1
Viva (Management)		1
Professionalism and patient centered approach (3)		
Able to elicit patient ideas, concerns, expectations		1
Use empathic behaviour and language Explain accurately, uses everyday language and check for understanding		1
Professional communication to examiner as colleague		1

Viva Questions: (Please ask questions surrounding the case and challenge the candidate where appropriate); **The questions below are provided as a guide for discussion only.**

Resource: Management Nausea and Vomiting of Pregnancy (NVP)and Hyperemesis Gravidarum, Green-Top guideline No. 69, June 2016

1. Differential diagnosis	Hyperemesis gravidarum – persistent vomiting in pregnancy with 5% weight loss and ketosis Gastroenteritis Urinary tract infection 'Acute abdomen' (surgical) - appendicitis, pancreatitis, obstruction 'Acute abdomen' (gynaelogical) – ectopic pregnancy, ovarian cyst accident Endocrine – DKA
2. How is HG diagnosed?	Nausea and vomiting in pregnancy with the following triad: 1 - More than 5% pre-pregnancy weight loss 2 - Dehydration 3 - Electrolyte imbalance NVP should only be diagnosed when onset is in the first trimester of pregnancy and other causes of nausea and vomiting have been excluded
3. How can the severity of NVP be classified?	Pregnancy-Unique Quantification of Emesis (PUQE) score (criteria shown below) Mild: <6 Moderate: 7-12 Severe: 13-15 (**candidate should not be expected to know the criteria/score off by heart)**
4. What initial assessments/investigations should be done before deciding on treatment?	ABCDE approach, assessing for dehydration/fluid status Assess for symptoms of nausea and vomiting in pregnancy Check urine for ketones (ketonuria quantified as 1+ ketones or more) MSU U&Es FBC (for infection, anaemia) Ultrasound scan (confirm viable intrauterine pregnancy, exclude multiple pregnancy and trophoblastic disease) Blood glucose – exclude DKA if diabetic
5. How would you manage a patient with NVP/HG	**Mild NVP:** Manage in the community with antiemetics Ambulatory daycare management should be used when community/primary care measure have failed and where the PUQE score is less than 13. **Inpatient management** should be considered if there is at least one of the following: - N and V and inability to keep down oral antiemetics

	- Continued N and V associated with ketonuria and or/weight loss (>5% of body weight) despite oral antiemetics - Confirmed or suspected comorbidity (such as UTI and inability to tolerate oral antibiotics)
6. What is the appropriate management for the patient in this case?	As she **is moderately dehydrated and ketotic**, she should be admitted for IV rehydration. 1. Rehydration: 0.9% saline 2. Electrolyte correction: add KCl if needed, daily U&E, too rapid correction can cause cerebral oedema, continue until oral fluids can be tolerated and ketosis is resolved 3. Antiemetics can be used if nausea and vomiting persist after rehydration, they are safe to use in pregnancy 4. Vitamin supplementation (B1) to prevent Wernicke encephalopathy 5. Thromboprophylaxis – LMWH and TED stockings Counsel effectively – explain, advise, reassure, support - Explain – she is pregnant, acutely unwell, needs hospitalisation - Advise – she will have the option to terminate the pregnancy - Reassure – this is treatable but will take a couple of days in hospital - Support – once she has recovered from the NVP she can come back and discuss her options
7. What therapeutic options are available for NVP and HG?	- There are safety and efficacy data for first-line antiemetics such as antihistamines (H1 receptor antagonists) and phenothiazines and they should be prescribed when required for NVP and HG - 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 Antiemetic ladder shown below

PUQE Index (GTG No. 69):

Total score is sum of replies to each of the three questions. PUQE-24 score: Mild ≤ 6; Moderate = 7–12; Severe = 13–15.

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

PUQE-24 score: Mild ≤ 6; Moderate = 7–12; Severe = 13–15.

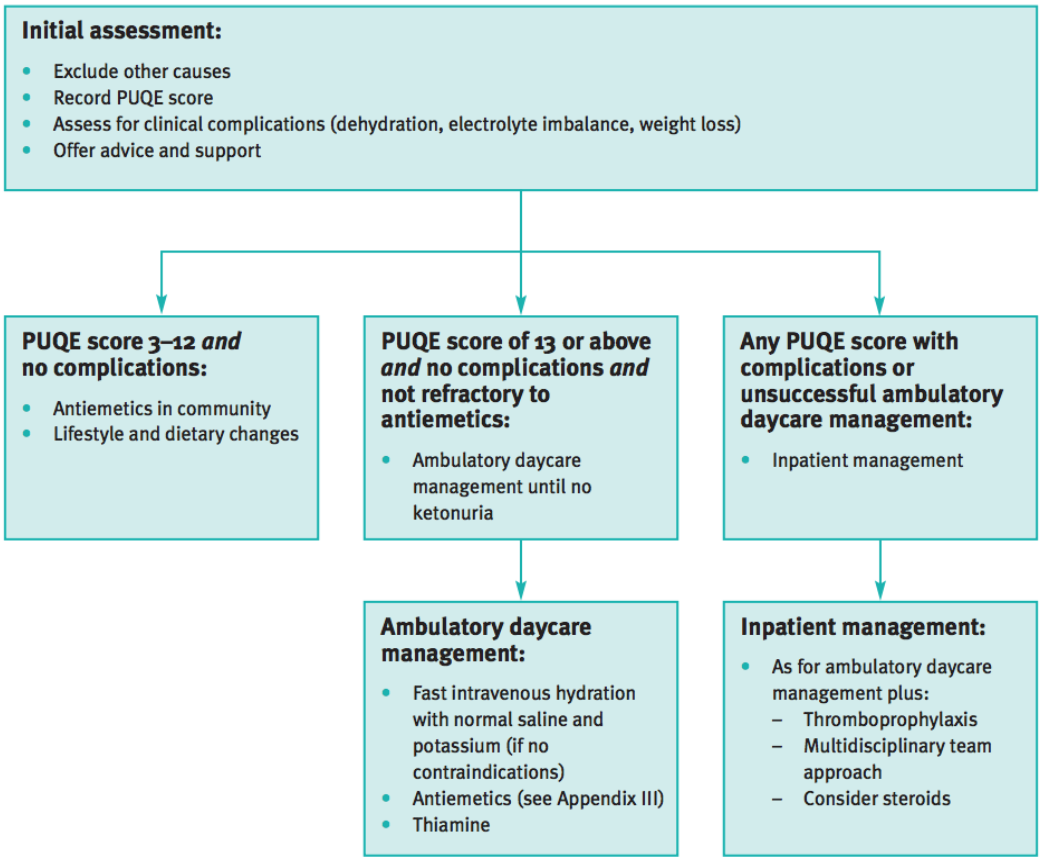
How many hours have you slept out of 24 hours? _____ Why? _____

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? _____

Treatment algorithm for NVP/HG (GTG No. 69):



Recommended antiemetic therapies and dosages (GTG No. 69)

First line	• Cyclizine 50 mg PO, IM or IV 8 hourly • Prochlorperazine 5–10 mg 6–8 hourly PO; 12.5 mg 8 hourly IM/IV; 25 mg PR daily • Promethazine 12.5–25 mg 4–8 hourly PO, IM, IV or PR • Chlorpromazine 10–25 mg 4–6 hourly PO, IV or IM; or 50–100 mg 6–8 hourly PR
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.