APPENDIX V: Treatment algorithms for NVP and HG in primary care (Vai and ii), ambulatory care (Vb), emergency department (Vc) and inpatient care (Vd)

Vai. Summary for General Practitioners

Why is the active management of nausea and vomiting of pregnancy (NVP)/ hyperemesis gravidarum (HG) important?

- NVP/ HG is associated with serious health consequences for both mother and baby
- Patients with NVP/HG often present to primary care as onset of symptoms occur prior to their pregnancy being booked by a midwife
- Patients are likely to have tried non-pharmacological options prior to presenting thus they may have severe disease at first presentation to primary care

Practice points for general practitioners:

- Validate patients' symptoms
- There are safety and efficacy data for first line antiemetic therapy including anti (H1) histamines, phenothiazines and doxylamine/pyridoxine and they should be prescribed when required for the management of NVP/HG
- In patients with severe disease multiple antiemetics prescribed together will be required
- Ketonuria is not an indicator of dehydration and should not be used to assess severity of NVP/HG
- Guidance for referral to secondary care is included in the algorithm below
- NVP/HG is likely to recur in subsequent pregnancies and pre-emptive use of medication can reduce severity of disease future pregnancies
- An assessment of mental as well as physical is important

Recommended simplified management algorithm for management of NVP/HG in primary care (for detailed algorithm see appendix Vaii):

Initial assessment

Diagnosis and severity assessment — **Document:** PUQE score /15 Weight kg

Management

PUQE score 3-12 and no complications

Manage in community

- Antiemetic therapy reassure re safety of all guideline-recommended antiemetics
- Support and reassure
- Encourage oral hydration
- Offer dietary advice eat little and often to prevent an empty stomach
- Consider use of laxative if required
- Prescribe histamine type-2 receptor blockers or proton pump inhibitors if women develop GORD
- Mental health assessment +/- referral to perinatal mental health services where required

Reassess at 24-72 hours

Improving (return to Manage in community)

Minimal/no improvement

- Add 2nd/3rd antiemetic
- When up-titrating, add drugs as opposed to replacing them (many women will require >1 antiemetic)
- Refer for inpatient management if red flags

Either:

- PUQE score ≥ 13 with no complications
- Inability to tolerate oral intake
- Community measures failed

Refer for ambulatory daycare management

Any red flag:

- Any PUQE score + complications
- Inability to tolerate oral intake
- Unresponsive to outpatient management
- Clinical dehydration
- Weight loss >5% body weight
- Confirmed or suspected co-morbidity e.g. UTI or diabetes mellitus
- Co-morbidity and unable to take medications e.g. epilepsy, HIV, hypoadrenalism, psychiatric disorders
- Concerns regarding mental health

Refer for inpatient management

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Vaii. Management of Nausea and Vomiting of Pregnancy (NVP)/ Hyperemesis Gravidarum (HG) in General Practice

Royal College of Obstetricians & Gynaecologists GPCPC

Initial assessment

History:
- Previous history of NVP/HG ☐
- Ptyalism (hypersalivation) ☐
- Weight loss ☐
- Poor oral intake ☐
- Effect on quality of life ☐
- Effect on mental health/mood ☐

Consider other causes in those with:
- Abdominal pain ☐
- Urinary symptoms ☐
- Infective symptoms ☐
- Possible drug cause ☐
- Chronic H. pylori infection ☐

Examination:
Observations:
- Temperature ☐
- Heart rate ☐
- Blood pressure ☐
- Respiratory rate ☐

Physical examination:
- Signs of dehydration ☐
- Signs of malnutrition ☐
- Abdominal examination ☐
- Neurological signs ☐

Prescence of confusion, nystagmus or ataxia should raise suspicion of Wernicke's encephalopathy

Investigations:
- Urine dipstick +/- MSU ☐
  nitrites may indicate urinary tract infection
  NB. Ketones are not a marker of dehydration
- Urea and electrolytes ☐
  to assess for hypo/hyperkalaemia, hyponatraemia, kidney injury
- Full blood count ☐
  infection, raised Hb or Hct may indicate dehydration
- Blood glucose ☐
  to assess for diabetes

Diagnosis and severity assessment

Document: PUQE score ☐ /15 Weight ☐ kg

Diagnosis:

NVP:
- onset of nausea and/or vomiting in early pregnancy with no other cause is identified ☐

HG:
- Nausea and vomiting (one of which is severe) ☐
- Onset <16 weeks' gestation ☐
- Inability to eat and drink normally ☐
- symptoms limit daily activity ☐

PUQE-24 scoring system:
In the last 24 hours:

How long have you felt nauseated or sick to your stomach for?	Not at all [1]	≤1h r[2]	2-3hrs [3]	4-6hrs [4]	>6hrs [5]
How many times have you vomited?	0x [1]	1-2x [2]	3-4x [3]	5-6x [4]	≥7x [5]
How many times have you had retching or dry heaves?	0x [1]	1-2x [2]	3-4x [3]	5-6x [4]	≥7x [5]

Management

PUQE score 3-12 and no complications

Manage in community
- Antiemetic therapy reassure re safety of all guideline- recommended antiemetics
- Support and reassure
- Encourage oral hydration
- Offer dietary advice eat little and often to prevent an empty stomach
- Mental health assessment +/- referral to perinatal mental health services where required

Reassess at 24-72 hours

- Improving
- Minimal/no improvement: Add 2nd/3rd antiemetic; Refer for impatient management if red flags

Either:
- PUQE score ≥ 13 with no complications
- Inability to tolerate oral intake
- Community measures failed

Refer for ambulatory daycare management

Any red flag:
- Any PUQE score + complications
- Inability to tolerate oral intake
- Unresponsive to outpatient management
- Clinical dehydration
- Weight loss >5% body weight
- Confirmed or suspected co-morbidity
  e.g. UTI or diabetes mellitus
- Co-morbidity and unable to take medications
  e.g. epilepsy, diabetes mellitus, HIV, hypoadrenalism and psychiatric disorders
- Concerns regarding mental health

Refer for inpatient management

Antiemetic therapy

1st line Doxylamine and pyridoxine 20/20mg PO at night, increase to additional 10/10mg in morning and 10/10mg at lunchtime if required.
Cyclizine 50 mg PO, IM or IV 8 hourly
Prochlorperazine 5–10 mg 6–8 hourly PO (or 3 mg buccal) ; 12.5 mg 8 hourly IM/IV; 25 mg PR daily
Promethazine 12.5–25 mg 4–8 hourly PO, IM or IV
Chlorpromazine 10–25 mg 4–6 hourly PO, IM or IV

2nd line Metoclopramide 5–10 mg 8 hourly PO, IV/IM/SC
Domperidone 10 mg 8 hourly PO; 30 mg 12 hourly PR
Ondansetron 4 mg 8 hourly or 8mg 12 hourly PO; 8 mg over 15 mins 12 hourly IV; 16mg daily PR
Women taking ondansetron may require laxatives if constipation develops

3rd line Prednisolone 40–50 mg daily PO, with the dose gradually tapered until lowest maintenance dose that controls the symptoms is reached
Corticosteroids should be reserved for cases where standard therapies have failed; when initiated they should be prescribed in addition to previously started antiemetics. Women taking them should have their BP monitored and a screen for DM

Other considerations

Up titration of antiemetics:
- Initially select a 1st line antiemetic
- Use combinations of drugs in women who do not respond to a single antiemetic
- When up titrating add drugs as opposed to replacing them Different classes of drugs may have synergistic effects and some women will require a combination of 3+ antiemetics to control symptoms

For all patients consider:
- Histamine type-2 receptor blockers or proton pump inhibitors if women develop GORD
  Both safe in pregnancy
- Thiamine supplementation in those with severely reduced dietary intake
- Laxatives if required for constipation
- VTE risk assessment (see RCOG risk assessment tool)

Post-partum care, planning for future pregnancy and signposting

- Patients with severe HG are risk of PTSD if required they should be referred to appropriate services
- In future pregnancy early use of lifestyle modifications should be used
- Pre-emptive use of doxylamine and pyridoxine can be used to reduce severity of disease in subsequent pregnancy 20/20mg PO at night to be started on confirmation of positive pregnancy test and up titrated when required

- Pregnancy Sickness Support
- HER Foundation
- UK Teratology Information Service
- Best use of medicine pregnancy

ukTIS bumps

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