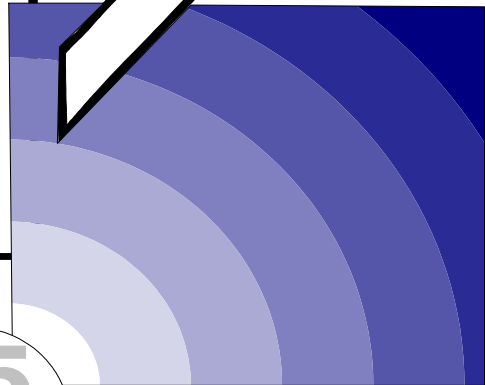
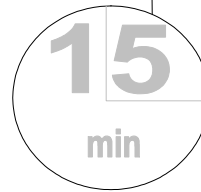


CLIP

15 minute Worksheet



Helping patients with symptoms other than pain

5: Nausea and vomiting

Intermediate level

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Aim of this worksheet

To learn how to assess and manage nausea and vomiting.

How to use this worksheet

- You can work through this worksheet by yourself, or with a tutor.
- Read the case study below, then work on the questions overleaf.
- The work page is on the right side, the information page is on the left.
- Work any way you want: you can try answering from your own knowledge (in which case fold over the information page), you can use the information page (this is not cheating- you learn as you find the information), or you can use other sources of information
- It should take you about 15 minutes. If anything is unclear, discuss it with a colleague.
- If you think any information is wrong or out of date let us know
- Take this learning into your workplace using the activity on the back page.

Case study

John is a 54 year old man who had a surgery for a carcinoma of the colon.

He asks to see you because he has started to feel nauseated with occasional vomiting.

Nausea and vomiting

This is common, occurring in 62% of patients with advanced cancer.

You need to ask the patient about the following:

- **Nausea** -how often, how long, precipitating and relieving factors, whether it is accompanied by vomiting.
- **Vomiting** - how often, how long, how much, content, precipitating/relieving factors, whether it is accompanied by nausea.

Current treatment

The is based on blocking the effects of specific neurotransmitters:

Haloperidol blocks central dopamine receptors (D₂) in the chemoreceptor trigger zone (CTZ)

ie. haloperidol is a dopamine antagonist.

Cyclizine blocks histamine receptors (H₁) and muscarinic receptors (ACh_m) in the brainstem

ie. cyclizine is an antihistamine and an antimuscarinic drug.

Domperidone and metoclopramide block peripheral dopamine receptors (D₂) in the stomach and upper small bowel.

They act by restoring motility towards normal.

Other antiemetics

Levomepromazine (methotrimeprazine: Nozinan) is a useful second line antiemetic because of its broad spectrum action on a range of receptors. It blocks histamine (H₁), dopamine (D₂) and acetylcholine (ACh_m) receptors as well as 5HT₂ receptors.

Ondansetron and *granisetron* block 5HT₃ receptors. They have been disappointing in palliative care despite their obvious success in chemotherapy vomiting and in post-operative nausea and vomiting.

Prochlorperazine (Stemetil): this has a weak action on the three main receptors (H₁, D₂ and ACh_m).

Drug doses and routes

Haloperidol is used in very low doses, 1 - 3mg once at night SC or PO. There is no need to give it by continuous SC infusion since it has a 16 hour half life.

Cyclizine is given as 25-50mg 8-hourly PO or PR, or 75 - 150mg per 24 hours as a continuous SC infusion.

Domperidone can be give PR or PO, metoclopramide PO or SC. Metoclopramide and domperidone are equally effective and either can be used. Domperidone is much less likely to cause movement disorders.

Levomepromazine can be given PO or SC 2.5 -12.5mg mg once at night.

Acupuncture and acupressure

There are 33 randomised controlled trials (12 of high quality) that support the use of the P6 acupuncture point for vomiting due to chemotherapy, morphine or post-operative nausea and vomiting.

The P6 point is on the middle of the inner wrist, two finger breadths up the arm from the wrist crease. It can be stimulated with pressure or an acupuncture needle.

Clinical decisions and treatment

• Is the patient mainly troubled by vomiting?

If the vomits are large volume and the patient dehydrating rapidly, consider gastric outflow obstruction as a cause.

If the vomits are large volume but hydration is reasonable, this could be gastric stasis. It is usually accompanied by early satiation, epigastric fullness and pain, flatulence, hiccup, large volume vomiting, or heartburn.

Metoclopramide or domperidone should help, but they need to start SC or PR to be effective.

If the volume of vomit is small consider regurgitation due to dysphagia, stomach paralysis or a 'squashed stomach syndrome' (caused by external pressure on the stomach from tumour, ascites or a large liver).

• Could the cause be drugs, toxins or biochemical? eg. drugs (morphine, metronidazole, trimethoprim) bacterial toxins, hypercalcaemia or uraemia.

Haloperidol or levomepromazine should help.

• Is the nausea or vomiting worse on movement?

For motion sickness try hyoscine hydrobromide, otherwise cyclizine or cinnarizine may help.

• Is gastritis present?

Treat the cause if known. Metoclopramide may help reduce nausea and vomiting.

• Could fear or anxiety be contributing?

See CliP worksheet on *Anxiety*.

• Is the nausea and vomiting persisting?

Start levomepromazine 3-6mg PO or 2.5-5mg SC at bedtime.

Other antiemetics that occasionally help are ondansetron, dexamethasone and low dose olanzepine.

WORK PAGE: Nausea and vomiting

Consider the mechanisms involved in the vomiting reflex in the diagram below. The neurotransmitters involved at the peripheral and central sites vary. By selectively blocking receptors with drugs, it is possible to control symptoms in most patients.

This diagram shows a simplified mechanism for nausea and vomiting.

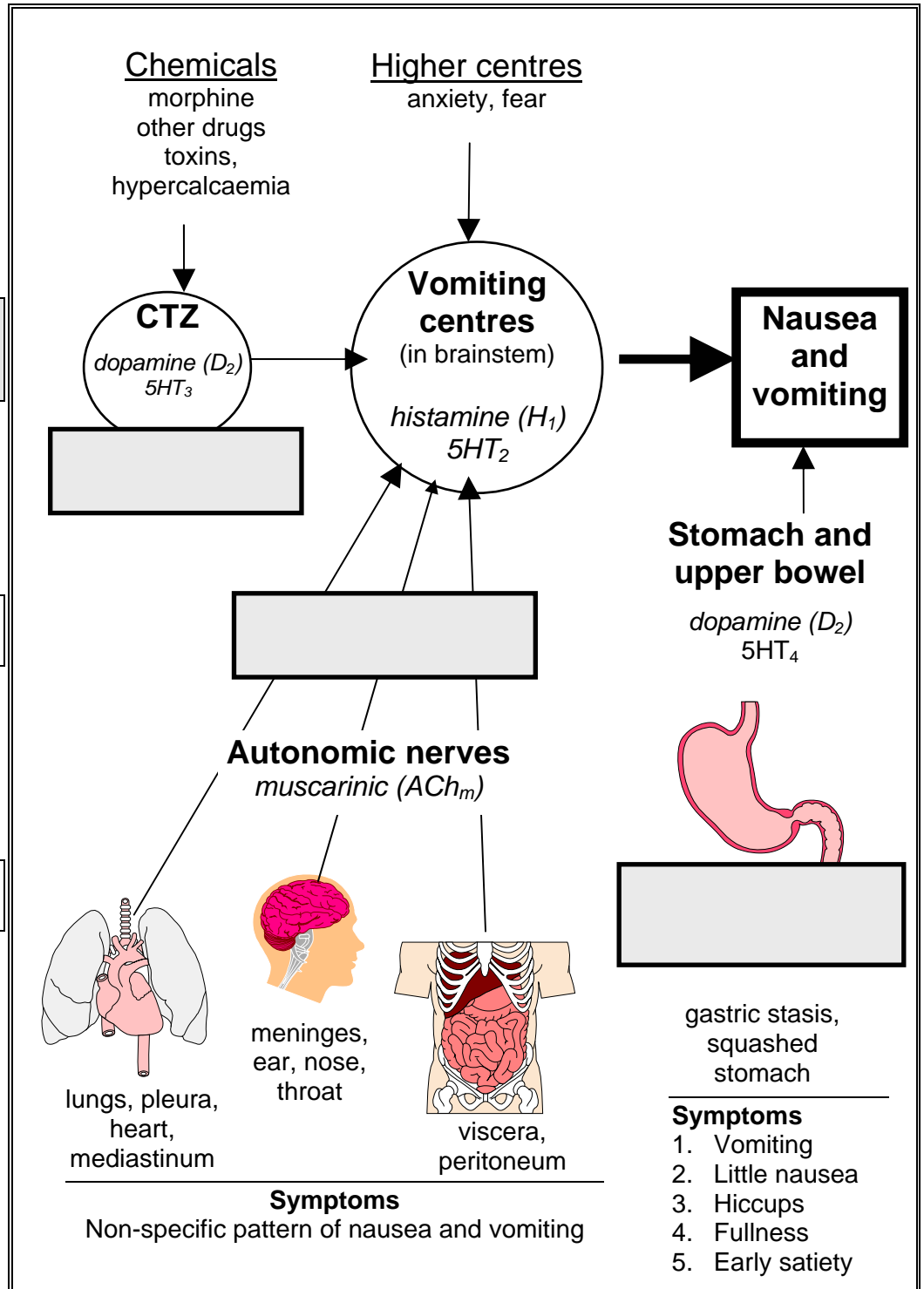
The receptors involved are written in *italics>*

In the shaded boxes, write the site of action of

- metoclopramide
- cyclizine
- haloperidol
- domperidone

What other antiemetics do you know?

What other treatments do you know?



Q What are the possible causes of John's vomiting?

FURTHER ACTIVITY: Nausea and vomiting

Find a patient who is troubled with nausea and/or vomiting:

- can you identify a pattern suggesting gastric stasis?
- what possible causes are there in this patient?

FURTHER READING: Nausea and vomiting

Journal articles

- Bentley A. Boyd K. Use of clinical pictures in the management of nausea and vomiting: a prospective audit. *Palliative Medicine*. 2001; **15**(3): 247-53.
- Bruera E. Belzile M. Neumann C. Harsanyi Z. Babul N. Darke A. A double-blind, crossover study of controlled-release metoclopramide and placebo for the chronic nausea and dyspepsia of advanced cancer. *Journal of Pain & Symptom Management*. 2000; **19**(6):427-35.
- Critchley P. Plach N. Grantham M. Marshall D. Taniguchi A. Latimer E. Jadad AR. Efficacy of haloperidol in the treatment of nausea and vomiting in the palliative patient: a systematic review. *Journal of Pain & Symptom Management*. 2001; **22**(2): 631-4.
- Critchley P. Plach N. Grantham M. Marshall D. Taniguchi A. Latimer E. Jadad AR. Efficacy of haloperidol in the treatment of nausea and vomiting in the palliative patient: a systematic review. *Journal of Pain & Symptom Management*. 2001; **22**(2): 631-4.
- Currow DC. Coughlan M. Fardell B. Cooney NJ. Clinical note. Use of ondansetron in palliative medicine. *Journal of Pain & Symptom Management*, 1997; **13**(5):302-7.
- Davis MP. Walsh D. Treatment of nausea and vomiting in advanced cancer. *Supportive Care in Cancer*. 2000; **8**(6): 444-52.
- Han P. Arnold B. The challenge of chronic AIDS-related nausea and vomiting. [Journal Article] *Journal of Palliative Medicine*. 2001; **4**(1): 65-8.
- Herrstedt J. Nausea and emesis: still an unsolved problem in cancer patients? *Supportive Care in Cancer*. 2002; **10**(2): 85-7.
- Johnstone PA. Polston GR. Niemtzow RC. Martin PJ. Integration of acupuncture into the oncology clinic. *Palliative Medicine*. 2002; **16**(3):235-9.
- Lichter I. Which antiemetic? *Journal of Palliative Care* 1993; 9: 42 - 50
- Quigley EM. Hasler WL. Parkman HP. AGA technical review on nausea and vomiting. *Gastroenterology*. 2001; **120**(1):263-86.
- Rhodes VA. McDaniel RW. Nausea, vomiting, and retching: complex problems in palliative care. *Ca: a Cancer Journal for Clinicians*. 2001; **51**(4): 232-48.
- Skinner J. Skinner A. Levomepromazine for nausea and vomiting in advanced cancer. *Hospital Medicine (London)*. 1999; **60**(8):568-70.
- Watson M. Meyer L. Thomson A. Osofsky S. Psychological factors predicting nausea and vomiting in breast cancer patients on chemotherapy. *European Journal of Cancer*. 1998; **34**(6):831-7.

Resource books and websites

- A Guide to Symptom Relief in Palliative Care*, 5th ed. Regnard C, Hockley J. Abingdon: Radcliffe Medical Press, 2004
- Oxford Textbook of Palliative Medicine* 3rd ed. Doyle D, Hanks G, Cherny NI, Calman K eds. Oxford : Oxford University Press, 2003.
- PCF2- Palliative Care Formulary*, 2nd ed. Twycross RG, Wilcock A, Charlesworth S. Abingdon: Radcliffe Medical Press, 2003.
Also on www.palliativedrugs.com
- Symptom Management in Advanced Cancer*, 3rd edition. 2001. Twycross RG, Wilcock A. Abingdon: Radcliffe Medical Press.

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**Current
Learning
In
Palliative care**
**An accessible
learning programme
for health care
professionals**

Fifty seven 15 minute worksheets are available on:

- An introduction to palliative care (3 worksheets)
- Helping the patient with pain (9 worksheets)
- Helping the patient with symptoms other than pain (11 worksheets)
- Moving the ill patient (2 worksheets)
- Psychological needs (8 worksheets)
- Helping patients with reduced hydration and nutrition (8 worksheets)
- Procedures in palliative care (4 worksheets)
- Understanding and helping the person with alternative communication (learning disabilities) (5 worksheets)
- The last hours and days (4 worksheets)
- Bereavement (3 worksheets)

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Helping the Patient with Advanced Disease: a Workbook. Regnard C. ed.

Oxford: Radcliffe Medical Press www.radcliffe-oxford.com