Cambridge University Hospitals NHS
NHS Foundation Trust

Management of nausea and vomiting

Palliative and EOLC study day: Jan 19

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Nausea and vomiting management

1. Evaluation to identify cause(s)
2. Treatment of reversible causes
3. Non-pharmacological management
4. Pharmacological management

1) Identify cause(s)

Related to disease	Related to treatment	Concurrent causes
Gastric stasis Bowel obstruction Hepatomegaly Constipation Pain Anxiety Raised ICP Cough Hypercalcaemia	Chemotherapy Radiotherapy Drugs NSAIDs Opioids Antibiotics Iron TCA SSRI Digoxin	Infection Gastritis Candidiasis Uraemia Alcohol excess

Clinical pictures

Chemical causes	Bowel obstruction	Raised ICP
Severe, persistent nausea Little relief from vomiting Smaller volume vomitus Retching	Early satiety Relatively little nausea Larger volume vomitus Undigested food Faeculent vomitus Abdominal colic	Early a.m. headache

Always take a detailed nausea and vomiting history

Identifying cause(s)

Chemical picture

- Drugs, chemotherapy
- Hypercalcaemia, uraemia

Raised ICP picture

- Space occupying lesion
- Cranial radiotherapy

Bowel obstruction picture

- Malignant obstruction
- Gastric stasis
- Constipation

Movement-related picture

- Vestibular disease
- Transport

2) Treat reversible causes

- Drugs
- Anxiety
- Constipation
- Hypercalcaemia
- Raised intracranial pressure
- Tense ascites
- Severe pain
- Infection
- Cough

Always correct these first!

3) Non-pharmacological management

- Relaxation
- Calm, reassuring environment
- Small snacks, bland food
- Avoid odours and control of malodour
- Attention to food preparation
- Mouth care
- Acupuncture and acupressure (P6)
- NG / PEG tubes
- Surgery / stents

4) Pharmacological management

First line antiemetics

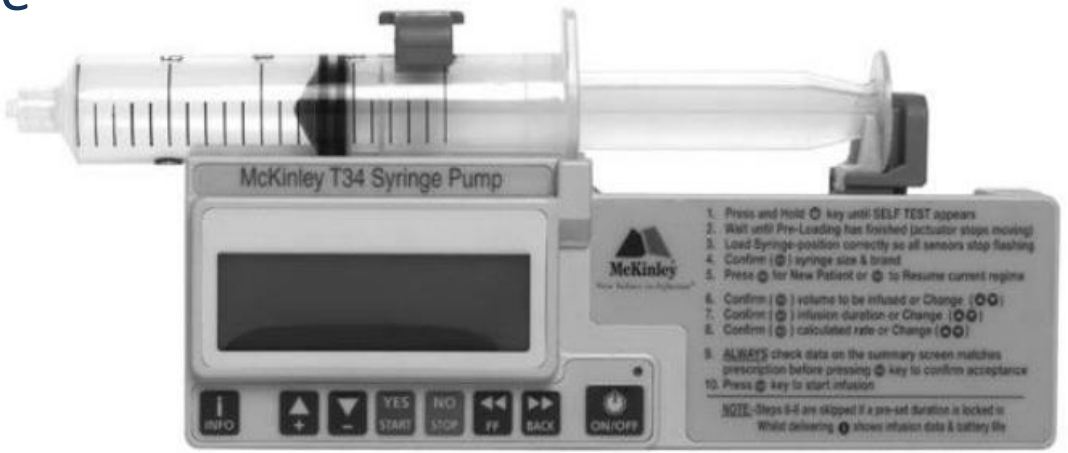
- Metoclopramide
- Cyclizine
- Haloperidol

Second line antiemetics

- Levomepromazine
- Ondansetron

Miscellaneous

- Hyoscine butylbromide
- Octreotide
- Dexamethasone
- Benzodiazepines



Antiemetic choice

Chemical causes

- **Metoclopramide** or **haloperidol**
- Granisetron/ondansetron

Bowel obstruction

- **Metoclopramide** (if no colic)
- Hysocine butylbromide (if colic)
- Octreotide
- Dexamethasone
- Ondansetron

Raised ICP

- **Cyclizine**
- Dexamethasone

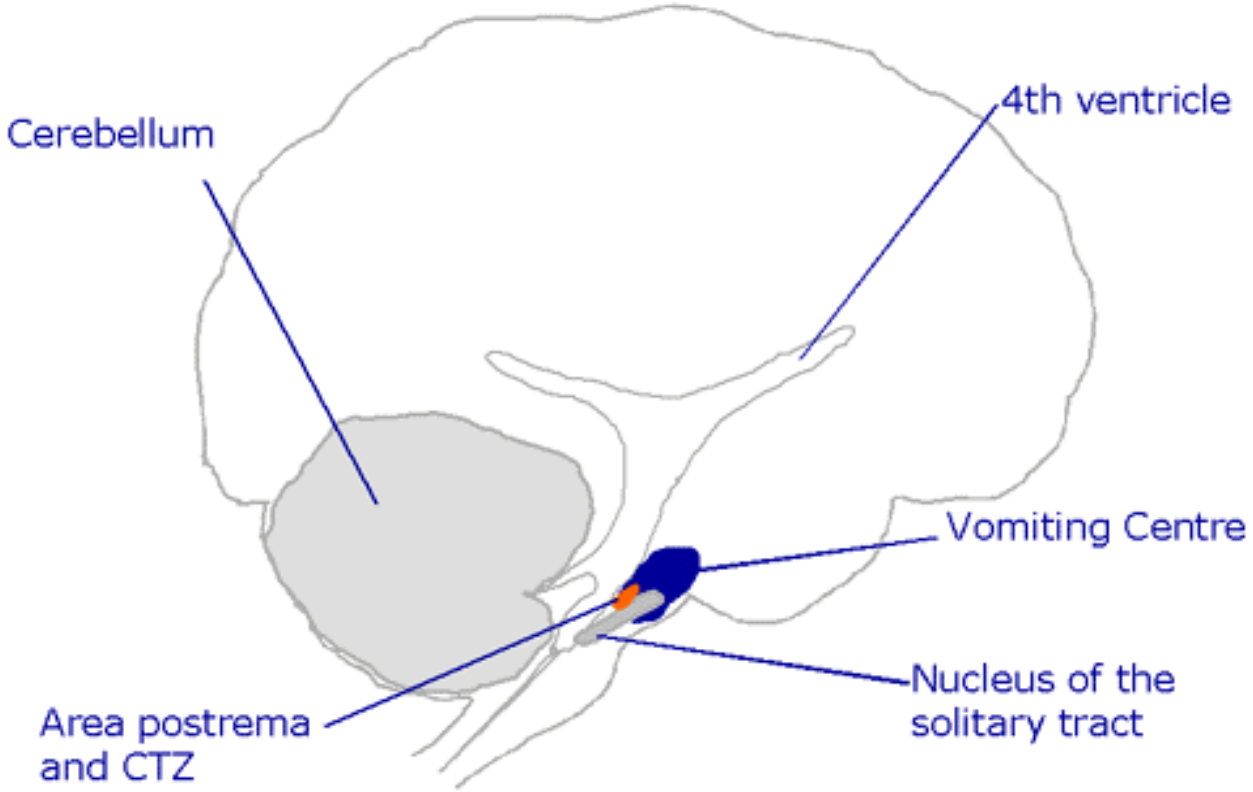
Movement-related

- **Cyclizine**

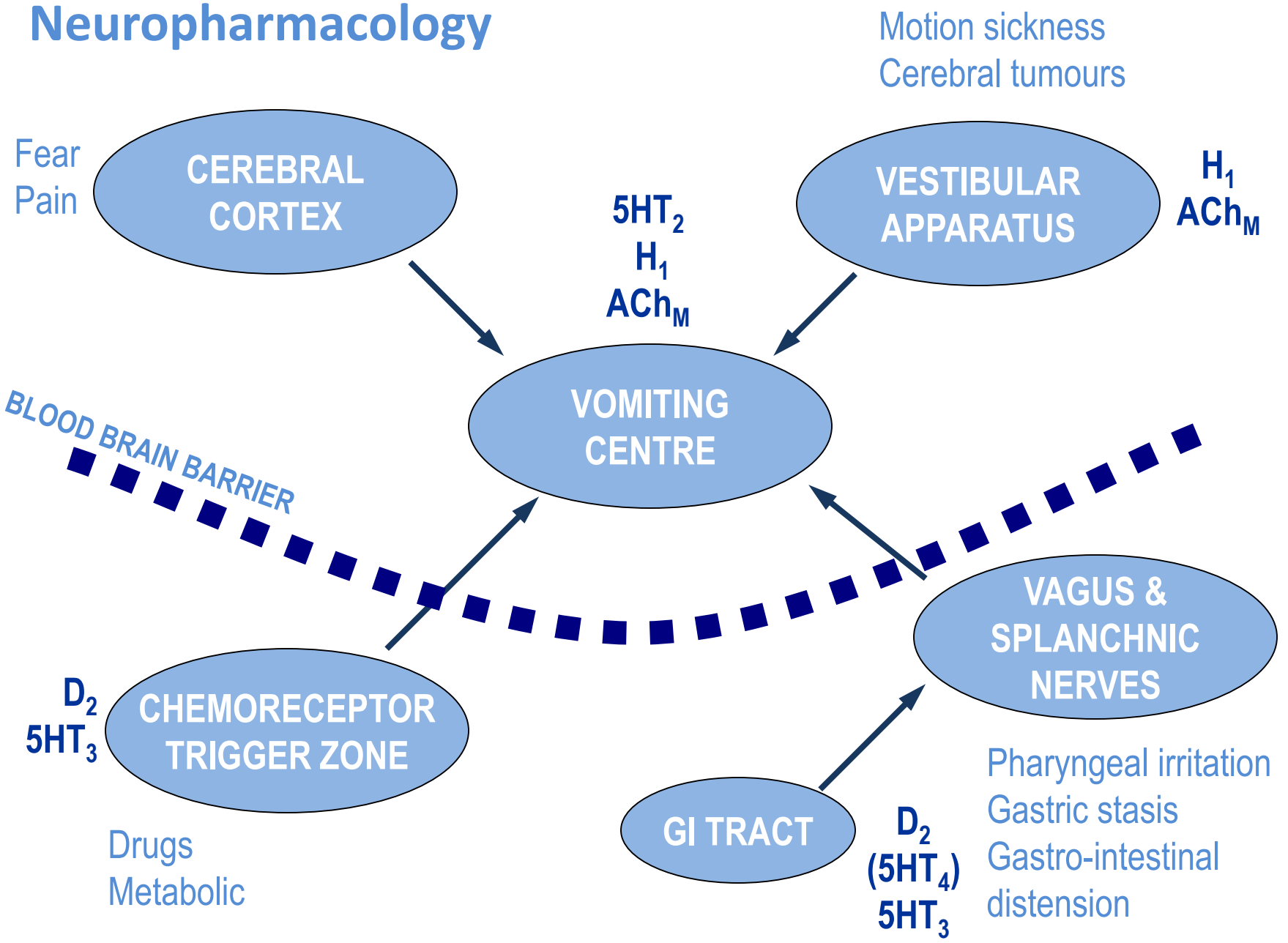
Unknown/multiple causes

- Levomepromazine

Neuroanatomy



Neuropharmacology



First line antiemetics

Metoclopramide 10mg tds po/sc or 30mg/24hrs CSCI

Indication: GI obstruction without colic (functional/partial mechanical)

Mechanism: D2 antagonist, 5HT4 agonist

Adverse effects: colic, diarrhoea, extra-pyramidal symptoms

Haloperidol 0.5 - 2.5mg od/bd po/sc or 1-3mg/24hrs CSCI

Indications: chemical causes including opioids, renal failure

Mechanism: D2 antagonist

Adverse effects: drowsiness, extra-pyramidal symptoms

Cyclizine 50mg tds po/sc or 100-150mg/24hrs CSCI

Indications: raised ICP, motion-induced

Mechanism: antihistaminic, antimuscarinic

Adverse effects: constipation, dry mouth, confusion

Non-surgical management malignant bowel obstruction

Either

a) Functional MBO or b) partial mechanical without colic

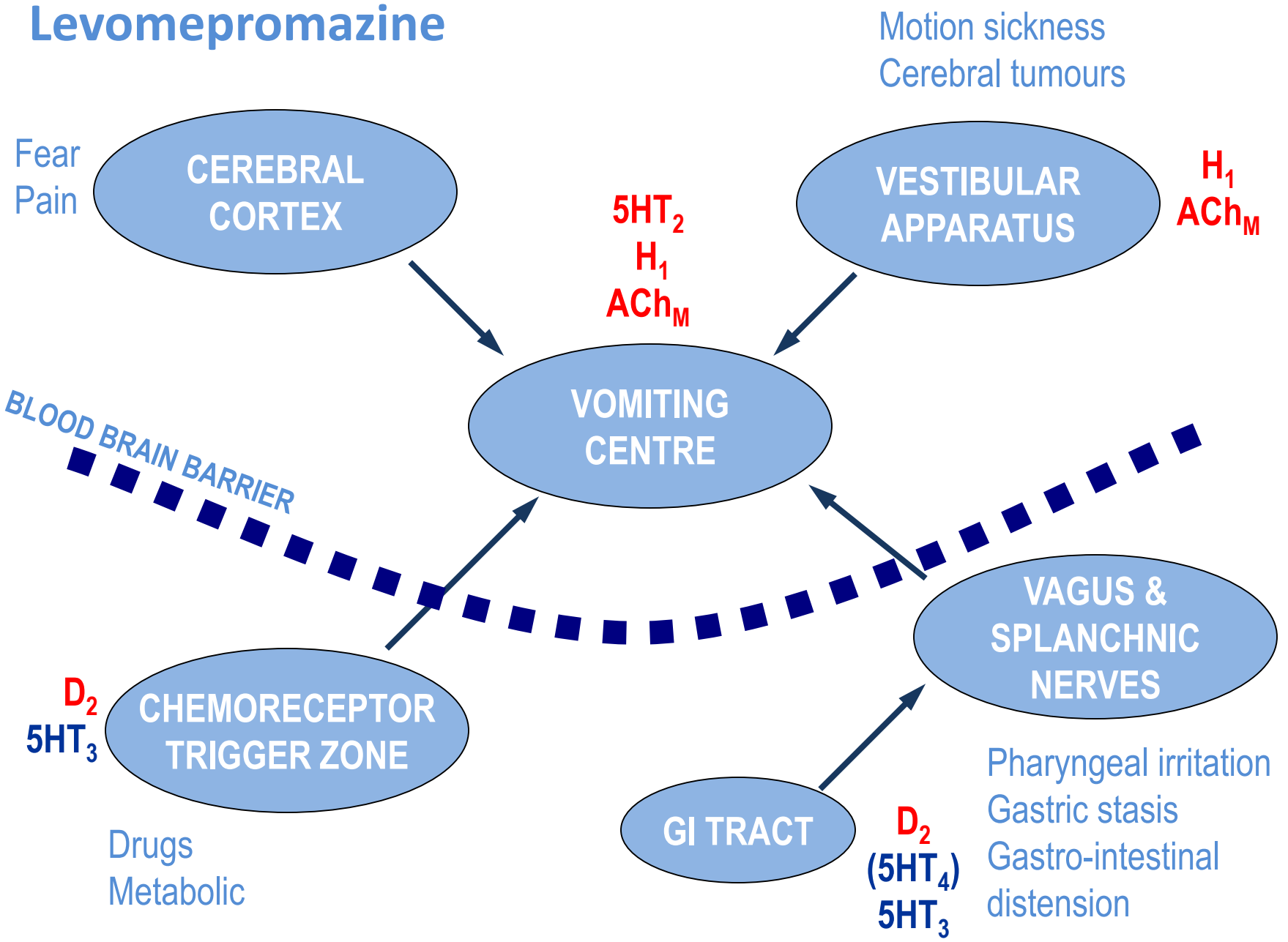
- Metoclopramide (with care...)
- Stool softeners (consider stimulants in functional MBO)

Or

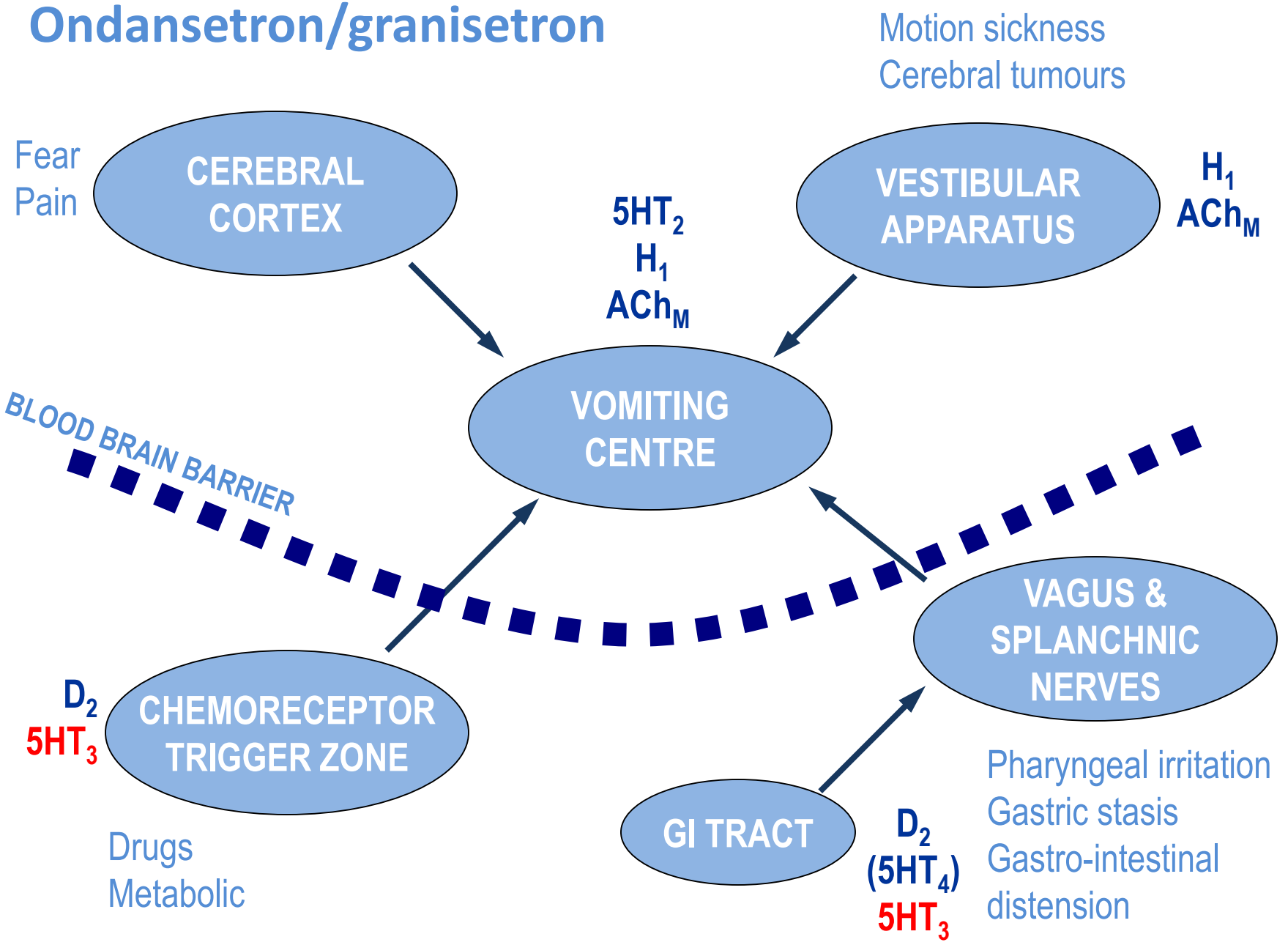
a) Complete mechanical MBO or b) partial mechanical with colic

- Morphine sulphate
- Hyoscine butylbromide and/or octreotide
- Dexamethasone
- Stool softeners

Levomepromazine



Ondansetron/granisetron



Other antiemetics

Levomepromazine 6 - 12.5mg od po/sc
Indications: unknown or multiple causes, anxiety-related
Mechanism: broad spectrum, multiple receptors
Adverse effects: sedation

Ondansetron 4-8mg bd po/sc
Indications: chemical causes esp chemotherapy, RT involving bowel
Mechanism: 5HT3 antagonist
Adverse effects: constipation, headache

Dexamethasone 4-8mg/day po/sc
Indications: raised intracranial pressure, GI obstruction
Mechanism: unclear, reduced inflammation
Adverse effects: hyperglycaemia, disturbed sleep

Prescribing points

- Prescribe regular and PRN antiemetic
- Both nausea and vomiting reduce enteral drug absorption. Use subcutaneous route (oral route only for prophylaxis)
- Use combinations with complimentary actions eg cyclizine and haloperidol. Avoid antagonistic combinations eg cyclizine and metoclopramide
- Levomepromazine can replace drug combinations

Summary

- The key to managing nausea and vomiting it to determine the cause
- A detailed description of the symptom can help identify the cause
- Always consider reversible causes
- The cause of the symptom guides the choice of antiemetic

Clinical case 1

- 86 year old lady, end stage renal failure, kyphoscoliosis
- Pubic rami fractures following a fall
- Bed-bound at home
- Vomiting for six weeks, despite cyclizine and levomepromazine
- Little nausea, vomits often unanticipated

Clinical case 2

- 73 year old man with prostate cancer and bone metastases
- Pain worse recently, especially on movement
- Over last few days vomited twice; nausea is continual
- Drowsy, with nausea, anorexia and sore mouth; occasionally plucking at the air
- Only on morphine sulphate MR 30mg bd, diclofenac 50mg tds

Clinical case 3

- 68 year old man with NSCLC
- Severe headaches, vomiting, unable to keep down morning medications
- Also taking dexamethasone 4mg od for appetite and diclofenac 50mg tds for chronic low back pain

Clinical case 4

- 72 year old lady with advanced, progressing ovarian cancer
- Abdominal pain was well controlled with MST 20mg bd, constipation with lactulose
- Vomited several times daily with little nausea over last three days; she has severe episodic abdominal pain
- Large volume vomits; bowels not open but passing flatus

Clinical case 5

- 71 year old lady with oesophageal cancer, BMI 16.2
- Admitted with vomiting
- Still nauseated after successful intervention, with ongoing anorexia and weight loss
- Her daughter is very distressed and continually encouraging her to eat