Mechanistic approach to identify and manage refractory nausea and vomiting related to malignancy - a clinical case

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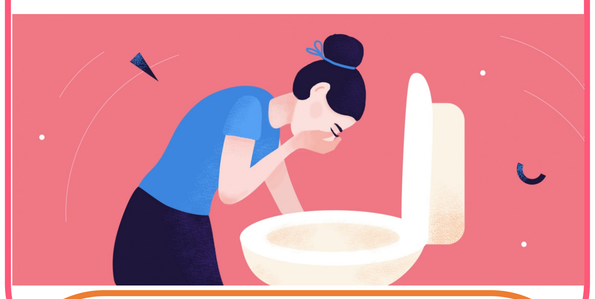
BACKGROUND

Nausea and vomiting (N&V) are two distinct yet inter-related symptoms that commonly add to the distress among cancer patients (1).



APPROACHES TO MANAGE

Traditionally, the clinicians followed conventional techniques in addressing them.

EMPIRICAL METHOD

Medicine is prescribed to alleviate the symptoms based on the commonest aetiologies in a general sense.

Here, we explore a new approach!

MECHANISTIC APPROACH

Involves identification of the most probable aetiological factors in a given patient and guiding the management accordingly (2).

CASE PRESENTATION

Demographic Details: Female, 59 years old, Married

Medical History: Diabetic Mellitus, bilateral ovarian (high grade) Serous Papillary Cystadenocarcinoma complicated with widespread peritoneal metastasis (October 2015).

Surgical History: Total abdominal hysterectomy + bilateral salphingo-oophorectomy + infra-colic omentectomy

Previous Treatments: Course of chemotherapy (CT)

She was diagnosed with recurrence in October 2016 with an estimated 5 – year -survival of 25%.

Current Treatment: Intravenous Paclitaxel and Carboplatin 6 to 8 cycles.

Reasons for Hospital Admission: Three days following completion of the second cycle of CT, the patient was re-admitted to the tertiary-care state-operated cancer hospital with abdominal pain, asthenia and N&V (3).

ONCOLOGY TEAM

WHAT THEY FOUND OUT

- Grade 2 haemorrhoids
- Constipation for 3 days
- Omental metastatic deposits and gross ascites on imaging
- Dyspnoea and generalized urticarial rash after fresh-frozen plasma transfusion

THEIR MANAGEMENT / DRUGS

- **bisacodyl 10mg (laxative) suppositories
- **Therapeutic paracentesis (6 litres)
- **Intravenous metoclopramide 10mg
- **Liquid diet and IV fluids
- Transdermal fentanyl (50 micrograms/ hour)
- Metformin 500mg twice daily
- Transfusion 4 units of fresh frozen plasma resulted in a mild allergic reaction to counter which intravenous chlorpheniramine hydrocortisone were administered.

**Measures specific to ease N&V

CASE MANAGEMENT

The Patient was referred to the Palliative Care Unit (PCU) to control intractable and treatment resistant N&V (NOV 2016)

PALLIATIVE TEAM

DETAILED ASSESSMENT OF SYMPTOMS

SUBJECTIVELY: The patient used the adjective "wretched / කාලකණ්ණි " to describe her distress. Attributed her weakness, aversion towards food and anxiety to have arisen due to N&V.

OBJECTIVELY: Memorial Symptom Assessment Scale – Short Form (MSAS - SF) (4) identified that N&V bothered her almost constantly.

MANAGEMENT

Built a good rapport with the patient to reveal more facts which could potentially enable to help her better. Plan of management was agreed between the patient, oncology team and ourselves.

MECHANISTIC APPROACH

Dealing with iatrogenic factors

chemotherapy combination → IV ondansetron (8 mg, 12 Hourly) (6)

chemotherapy combination → IV dexamethasone (4mg, 6 Hourly) (7)

⚠ Due to unavailability of aprepitant (neurokinin-1 antagonist) or palonosetron (5-HT_3 antagonist) (7).

opioids → Discontinued fentanyl patches

opioids → Analgesic regime was stepped down with Step 1 of WHO analgesic ladder [non-opioid analgesic paracetamol 1g, 6 hourly.

Since dexamethasone may potentially lead to gastric irritation (due to inhibition of gastro-protective prostaglandins), the initiation of a proton pump inhibitor; omeprazole was justified.

Other pharmacological aspects

Anxiety → diazepam 5mg nocte (benzodiazepine with anxiolytic effects)

Histamine antagonization → IV levomepromazine 6mg nocte on the first night only (broad spectrum anti-emetic) that exerts effects through H_1 (histamine) receptors, alpha-1 and alpha-2 adrenoceptors and dopamine-1 receptors (6).

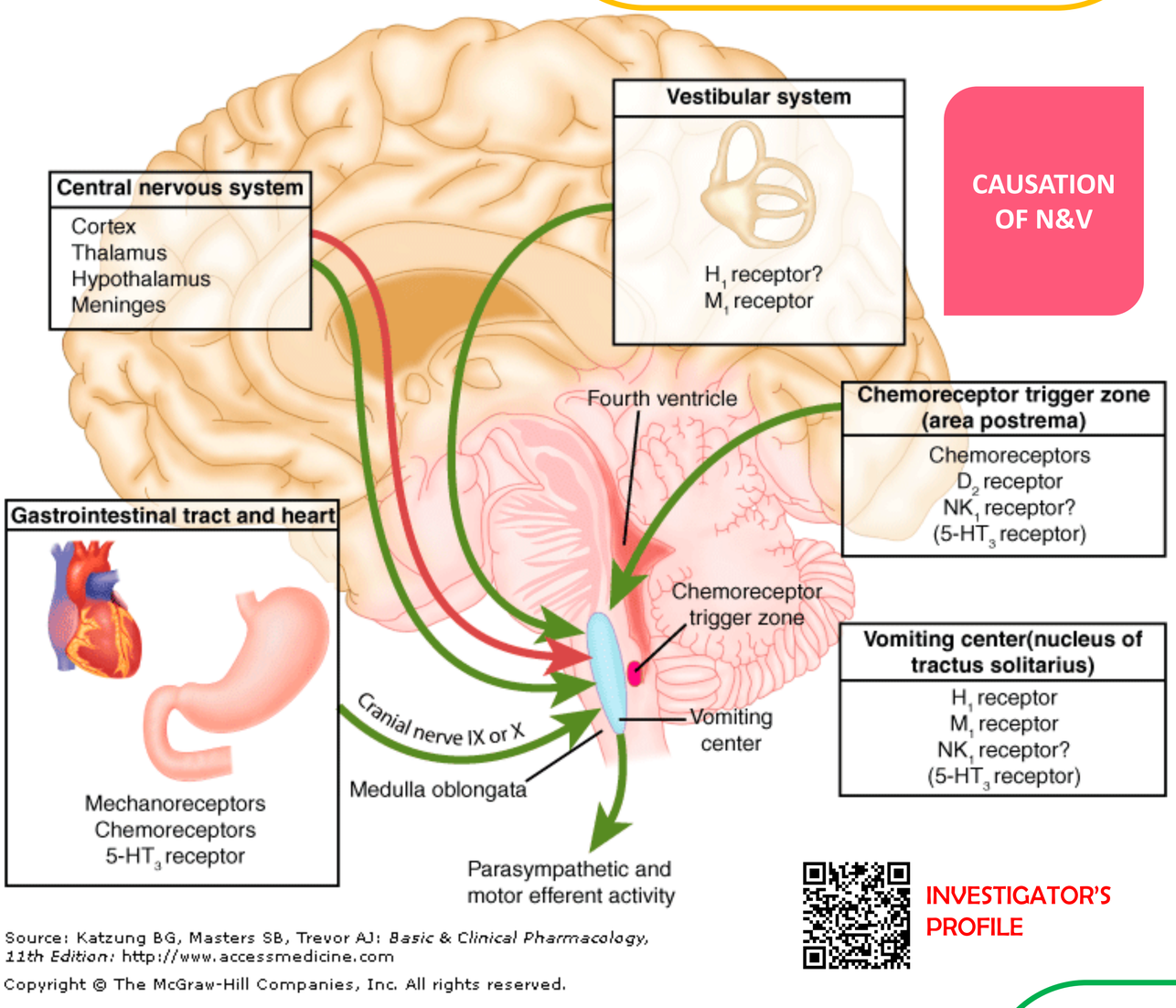
Lifestyle modifications

- The patient was advised to mobilize (non-exhaustively).
- She was willing to and hence consumed small frequent meals with less amount of liquids.
- Further, dietary advice was to avoid high fat meals, coffee, carbonated drinks and extremely spicy food (5,8).

CASE OUTCOME

- She was mobilized, and was smiling and talking with the fellow patients.
- Vomiting has completely settled and the remaining level of nausea didn't bother her according to her.
- Her pain was 0/10 (on numerical rating scale) off analgesics.
- She was able to consume solid food and was physically active than before.
- Even though she was feeling sad about her terminal diagnosis, she was grateful that her hope for a better quality of life was restored.

CAUSATION OF N&V



Source: Katzung BG, Masters SB, Trevor AJ: *Basic & Clinical Pharmacology, 11th Edition:* http://www.accessmedicine.com

INVESTIGATOR'S PROFILE

DISCUSSION

- ✓ Deciding on the most appropriate therapeutic options based on the most probable aetiologies must be encouraged in palliative care practice.
- ✓ Guidelines formulated to manage N&V must be feasible to adhere with locally available therapeutic modalities.
- ✓ Further research is required to explore newer drugs such as palonosetron, nabilone (cannabis extract) in terms of their efficacy and adverse effect profiles in comparison with the conventional drugs.
- ✓ It would also be beneficial to study the net benefits of non-pharmacological means useful for patients who are intolerant, resistant or aversive for medications. e.g. Transcutaneous Electric Nerve Stimulation (TENS) of P6 acupuncture point.
- ✓ I volunteered in PCU out of genuine interest with the institutional director's and the relevant consultant oncologist's authorization. Yet I came across many puzzled faces about my role and authority at the particular institution. I feel that cancer hospitals should have a designated "interdisciplinary palliative care team" that lacks at present.

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