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Palliative Care of Nausea and Vomiting

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Nausea and vomiting are common and often require attention in palliative-care settings. Fortunately, current treatments can fully control a patient's symptoms in as many as 70% of cases.

Treatment is most straightforward if a single cause for a patient's nausea and vomiting can be identified. Often, however, the cause is multifactorial and not readily apparent. As a result, it is frequently necessary to treat the patient's symptoms while simultaneously seeking a potentially reversible cause.

Common Causes

Constipation is a common cause of nausea and vomiting in patients receiving palliative care, because many of the drugs used in palliative care, particularly opioids, are highly constipating. Other medications also cause nausea and vomiting, with common offending drugs including cancer chemotherapy agents, non-steroidal anti-inflammatory drugs, and some antibiotics.

Radiation therapy, which is often used for palliative reasons, is another common cause of nausea, as is increased intracranial pressure from primary or metastatic brain tumors. Lastly, oropharyngeal candidiasis is a frequent cause of nausea and vomiting in patients receiving palliative care.

Assessment

There are two widely used methods for assessing the severity of nausea and vomiting in patients receiving palliative care. These assessment tools are helpful not only in the initial diagnosis of the nausea /vomiting, but also for measuring any change in symptoms during treatment.

One approach is a component of the Edmonton Symptom Assessment System (ESAS), which is used to monitor the severity of many symptoms common to palliative care. In the ESAS, a patient rates nausea on a 10-point visual analog scale ranging from "no nausea" to "worst possible nausea."

A more detailed evaluation scale is the Rhodes Index of Nausea, Vomiting, and Retching, on which patients rate 8 aspects of their nausea and vomiting on a 5-point visual analog scale. This instrument can be viewed at www.helper.org/downloads/rhodes-index.pdf

Non-Pharmacologic Treatment

Non-pharmacologic therapy is especially helpful in the geriatric population, as medications often cause unwanted side effects. Good oral hygiene is widely recommended, as is avoiding odors that trigger symptoms. Patients should experiment with various foods to find out which ones agree with them and which worsen symptoms.

Some complementary and alternative therapies that have been tried are ginger, carbonated beverages, cognitive therapy, reflexology, guided imagery, and acupuncture. All of these modalities have been successful in small trials, but further study is needed before they can be accepted as clearly effective therapies.

Pharmacological Treatment

The recommended approach is to start with a narrow-spectrum medication that acts on a class of cell receptors in the organs thought to be involved in the genesis of the patient's symptoms. Then, if the response is not satisfactory, add or switch to a drug that acts on different receptors. It is generally ineffective to prescribe multiple drugs that act on the same receptors.

For example, if a patient is experiencing chemotherapy-induced nausea and vomiting that is not responsive to treatment with prochlorperazine, a drug that blocks dopamine receptors, it would **not** be helpful to add another dopamine-blocking agent, such as haloperidol, as a second anti-nausea drug. A more logical addition would be a drug that acts on serotonin receptors.

The receptors involved in different types of nausea and vomiting are shown in Table 1. Drugs that act on those receptors are shown in Table 2.

TIPS FOR DEALING WITH NAUSEA AND VOMITING IN PALLIATIVE CARE

- Use an objective measurement scale, like the Edmonton Symptoms Assessment System or the Rhodes Index, to determine and follow the severity of a patient's symptoms.
- Target initial drug therapy to a receptor that is likely responsible for the patient's nausea and vomiting (Table 1).
- If initial drug therapy does not provide adequate relief, add or change to a drug that acts on a different receptor.
- Consider referral to a palliative care specialist for patients with severe symptoms, or when two drugs have been tried and symptoms persist.

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Dexamethasone is also widely used by palliative care clinicians. It helps many symptoms, among which are nausea and vomiting. It also decreases intracerebral pressure in

patients with brain tumors, and decreases bowel edema in those with bowel obstruction.

Many clinicians prescribe benzodiazepines as an antiemetic, but they have only been proven to help those who have anxiety associated with their nausea and vomiting. Furthermore, benzodiazepines are **not** recommended for older adults because of paradoxical agitation and risks of delirium.

Palliative Care Referral

Consider referral to a palliative care specialist if a patient has severe symptoms or if symptoms are not controlled after a trial of two drugs.

Invasive Therapy

When nausea and vomiting are due to cancer-related bowel obstruction, there are several other therapies to consider if a patient is willing and able to undergo an invasive procedure. Such procedures range from placement of a simple nasogastric tube, to more aggressive procedures like stent placement to open up the obstruction or insertion of a venting gastrostomy tube.

Cause of Nausea/Vomiting	Receptors Involved
Cancer chemotherapy and other drugs acting on the central nervous system	Dopamine Serotonin Cannabinoid Neurokinin-1
Gut dysmotility	Cholinergic Serotonin Histamine
Infection/Inflammation	Cholinergic Histamine Serotonin Neurokinin-1
Vestibular System Dysfunction	Histamine Cholinergic

Receptor	Usual Drugs	Special Considerations in Geriatrics
Cannabinoid	Dronabinol (Marinol) Nabilone (Cesamet)	More sensitivity to neurologic, psychoactive effects and orthostatic hypotension
Cholinergic	Scopolamine (Transderm Scop)	Anticholinergic side effects; higher rate of liver and kidney problems
Dopamine	Haloperidol (Haldol) Metoclopramide (Reglan) Prochlorperazine (Compazine) Olanzapine (Zyprexa) Promethazine (Phenergan) Droperidol (Inapsine)	Black box warning of increased mortality with use in the geriatric population Start at low doses due to sedation and confusion More sedation, hypotension, QT prolongation
Histamine	Cyclizine (Marezine) Meclizine (Antivert, Dramamine)	More dizziness, sedation, syncope
Neurokinin-1	Aprepitant (Emend)	
Serotonin	Dolasteron (Anzemet) Granisetron (Granisol, Kytril) Ondansetron (Zofran) Palonosetron (Aloxi)	

References and Resources

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