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RESEARCH ARTICLE

A STUDY TO ASCERTAIN THE ADVERSE EFFECTS OF MORPHINE IN CANCER PATIENTS BEING TREATED FOR SEVERE PAIN

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Abstract

Pain is a distressing symptom of cancer that affects the quality of life of patients, families, and caregivers. Moderate to severe pain is common throughout the disease trajectory of cancer, and its prevalence increases throughout the course of illness, it has been reported in 59% of patients undergoing anticancer treatment, in 64% of those with advanced/metastatic cancer, and in 33% of those having completed curative treatment. Adequate management of cancer pain is the cornerstone of symptom management for patients with cancer. [1] WHO guidelines on cancer pain continue to provide a framework approach for pharmacologic management of cancer pain management in terms of a Pain Ladder, wherein Step 1 for mild pain is prescribed NSAIDS, Step 2 for moderate pain is prescribed NSAIDS along with synthetic opioids and adjuvants and step 3 for severe pain is prescribed strong opioids like Morphine along with NSAIDS and adjuvants. Morphine being an excellent analgesic for severe pain is nowadays standard of care for terminal cancer patients with severe pain. However, its potency is a double edged sword and can give rise to side effects as well as much feared adverse effects. This study was undertaken to assess the undesirable effects on cancer patients being treated with Morphine. AIM To find the association of morphine and its adverse effects (by 4 point verbal rating scale) in cancer patient on long term morphine therapy. MATERIAL AND METHODS It is a hospital based longitudinal observational study, conducted in palliative care center, SMS hospital, Jaipur, after obtaining due approval from ethics committee and research review board of the institution. DURATION OF STUDY: One year. TOTAL PATIENTS: 30 patients evaluated one month after initiation of opioid therapy. ELIGIBILITY CRITERIA: Inclusion criteria 1. Cancer patients visiting palliative care OPD for distressing, somatic symptom like pain requiring treatment with strong opioids (step 3 WHO ladder). 2. Patients of all ages and both sexes. 3. Patients willing to give informed consent 4. Patients who understand the four point symptom rating scale. Exclusion Criteria: 1. Patients with deranged liver and kidney functions. 2. Patient with predominantly neuropathic pain. 3. Patients with altered sensorium. 4. Patient not willing to give informed consent.

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Introduction:-

Pain is a distressing symptom of cancer that affects the quality of life of patients, families, and caregivers. Moderate to severe pain is common throughout the disease trajectory of cancer, and its prevalence increases throughout the course of illness, it has been reported in 59% of patients undergoing anticancer treatment, in 64% of those with advanced/metastatic cancer, and in 33% of those having completed curative treatment. Adequate management of cancer pain is the cornerstone of symptom management for patients with cancer.^[1]

The WHO guidelines on cancer pain continue to provide a framework approach for pharmacologic management of cancer pain management in terms of a "Pain Ladder", wherein Step 1 for mild pain is advised NSAIDS, Step 2 for moderate pain is prescribed NSAIDS along with synthetic opioids and adjuvants and step 2 for severe pain is prescribed strong opioids like Morphine along with NSAIDS and adjuvants.

Morphine being an excellent analgesic for severe pain is nowadays standard of care for terminal cancer patients with severe pain. However, its potency is a double edged sword and can give rise to side effects as well as much feared adverse effects. This study was undertaken to assess the undesirable effects on cancer patients being treated with Morphine.

Aim:-

To find the association of morphine and its adverse effects (by 4 point verbal rating scale) in cancer patient on long term morphine therapy.

Material and Methods:-

It is a hospital based longitudinal observational study, conducted in palliative care center, SMS hospital, Jaipur, after obtaining due approval from ethics committee and research review board of the institution

Duration of study:

One year.

Total Patients:

30 patients evaluated one month after initiation of opioid therapy.

Eligibility criteria:

Inclusion criteria:

1. Cancer patients visiting palliative care OPD for distressing, somatic symptom like pain requiring treatment with strong opioids (step 3 WHO ladder).
2. Patients of all ages and both sexes.
3. Patients willing to give informed consent
4. Patients who understand the four point symptom rating scale.

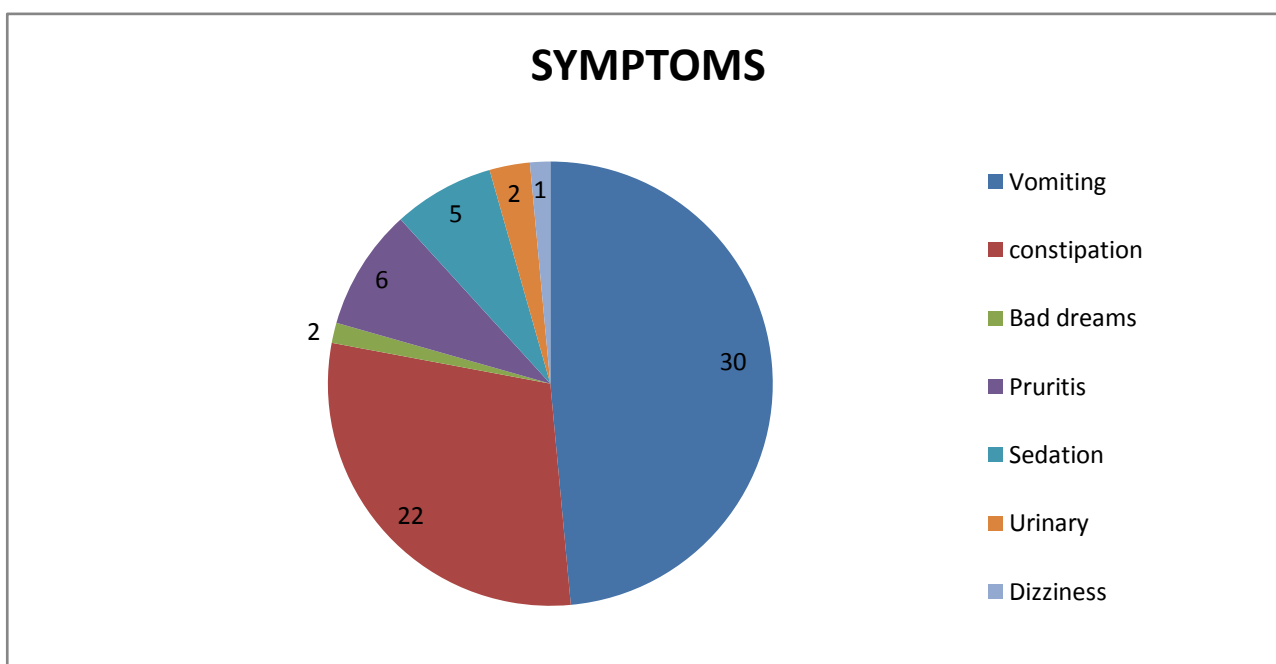
Exclusion Criteria:

1. Patients with deranged liver and kidney functions.
2. Patient with predominantly neuropathic pain.
3. Patients with altered sensorium.
4. Patient not willing to give informed consent.

Observation:-

Symptom	Absent	Present (mild)	Present(moderate)	Present (severe)
Vomiting	00	29	01	00
Constipation	08	06	13	03
Bad Dreams	28	00	01	01

Pruritis	24	03	03	00
Sedation	25	00	05	00
Urinary Retention	28	00	02	00
Dizziness	29	01	00	00
Other CNS side effects (Confusion, Hallucinations, Myoclonus, Respiratory Depression, Hyperalgesia)	00	00	00	00



Result:-

The most common adverse effect noticed amongst patients on long term morphine therapy was vomiting (100 %), followed by constipation in 20 (66%), pruritis was observed in 06(20%), sedation in 05 (25%), urinary retention in 02 (6.66%) and dizziness and bad dreams in 01 patient each (3.33%).

In the 30 patients on opioid therapy, followed up for one month, the dreaded, life threatening CNS symptoms like respiratory depression, seizures, hallucinations, myoclonus were not encountered in any of the patients.

Conclusion:-

This observational study refutes the general perception that morphine being a strong opioid has a large number of life threatening side effects, which makes clinicians wary and hence a large number of patients requiring it for relief of severe pain are bereft of its use.

By this study we conclude that morphine when prescribed for the judiciously evaluated patients, in right indications and in the right dosage with adequate monitoring gives good expected results, without causing life threatening adverse effects as generally perceived.

The minor side effects encountered can be managed well with drugs and adequate counseling of patients and their care givers.

Thus, Morphine when used cautiously need not be feared and should be used for patients with severe pain especially in cancer patients.

Discussion:-

Prescription of opioids for relief of severe pain can be bothersome especially amongst the older patients; they may paradoxically contribute in reducing the quality of life and cause substantial morbidity, because various factors may contribute to the challenges of managing pain in older adults. The frequent prevalence of co-morbid conditions makes the assessment and treatment of pain quite complex^(2, 3)

This needs to be kept in mind as many patients of malignancies encountered study belong to the elderly age bracket.

The overall incidence of adverse effects is low, and these are usually mild and they are usually tolerable^(4,5)

The primary aim in treating pain in cancer patients is to find the balance where opioids give good pain control with minimal side effects, of which the most common are nausea and vomiting, sedation and constipation.⁽⁶⁾

Nausea and vomiting:

This has been reported to occur in approximately 25 percent of patients treated with opioids; prophylactic measures generally are not required at the initiation of therapy^(7,8) Mechanisms for nausea may include direct stimulation of the chemoreceptor trigger zone (CTZ), reduced gastrointestinal motility, or enhanced vestibular sensitivity^(9,10,11) An understanding of the etiology is important as it aids physicians in the selection of antiemetic agents to target the underlying cause. Nausea that results from opioids usually is transient; however, treatment should be made available if substantial nausea and vomiting develop.

Constipation:-

Constipation is the most common adverse effect occurring with chronic opioid use. Prophylactic treatments are essential to minimize this complication. Opioids have various effects on the gastrointestinal tract, including decreases in motility, secretions, and blood flow, which lead to hard, dry feces^(12, 13, 14) The constipating effects of opioids are considered to be dose-related, and tolerance to this symptom rarely develops. This needs to be discussed with the patient and their caregivers at the start of opioid therapy, as this may sometimes be very troublesome for the patient.

Occasionally it may be severe enough to require opioid discontinuation, and contribute to under-dosing and inadequate analgesia. Several clinical trials are underway to identify adjunct therapies that may mitigate these side effects. Switching opioids and/or routes of administration may also provide benefits for patients. Proper patient screening, education, and preemptive treatment of this potential side effect may aid in maximizing effectiveness while reducing its severity.

Pruritus:

The likelihood of developing pruritus with opioid use ranges from 2 to 10 percent. The postulated mechanism of pruritus is related to histamine release in the periphery or to a centrally mediated process. The pruritus associated with opioids most likely is an adverse effect rather than an allergic reaction.⁽¹⁵⁾

Urinary retention:

Opioids causing urinary retention have long been recognized, and are most studied in post-operative adult patients where its incidence is approximately 25%⁽¹⁶⁾ All opioids can cause urinary retention due to mu-opioid receptor agonism. This symptom needs to be carefully looked for during follow ups and patient and caregivers should be asked to report early if this side effect is encountered.

Sedation:

Sedation and decreased cognition are examples of CNS adverse effects associated with opioid use. The reported incidence of sedation is between 20 and 60 percent.⁽¹⁷⁾ It commonly presents with initiation of opioid therapy or with dose increases.

Conflict of interest:

None.

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