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CANCER PAIN MANAGEMENT

(Etiopathogenesis, Assessment & Pharmacological Management)

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Magnitude of the problem

India receives about 10 lakhs new cancer patients every year. As statistical data suggest approximately 60-80% patients, when they are diagnosed, are advanced cases and hence incurable. Often, their major symptom is moderate to severe pain. According to present estimates about 56% cancer patients in India require relief of symptoms (palliative care) at any given time, however, only 28% are provided some sort of palliative care before they die. There is an immediate need to address this issue at all levels. Clinicians should reassure patients and their families that most pain could be relieved safely & effectively. Clinicians should assess patients and provide optimal relief throughout the course of illness. Health professionals should be properly educated about pain and its management in the treatment plan and encourage patients to be active participants in pain management. State regulatory bodies should not hamper the supply and appropriate use of opioid analgesics for cancer pain. Clinicians should collaborate with patients and families tackling the costs of the drugs and technologies in selecting pain management strategies. Pain associated with cancer is frequently under-treated in adults and children (1). The incidence of pain in patient with cancer depends on the type and stage of the disease. At the time of diagnosis and intermediate stages, 30% to 45% of patients experience severe pain. In approximately 90% of patients, pain can be controlled through relatively simple means. Because of cancer pain is a problem of international scope, the World Health Organization (WHO) has urged that every nation give high priority to establishing a cancer pain relief policy. Surprisingly, Pain got its proper scientific definition in 1979 (by IASP) as "an unpleasant sensory & emotional experience due to tissue damage or described in terms of that damage"(2).

Importance of controlling cancer pain

Pain control merits high priority for two reasons. First, unrelieved pain causes unnecessary suffering (3). Because pain diminishes activity, appetite, & sleep, it can further weaken already debilitated patients. The psychological effect of cancer pain can be devastating. Patients with cancer often loose hope when pain emerges, believing that pain heralds the inexorable progress of a feared, destructive, & fatal disease. Chronic unrelieved pain can lead patients to reject active treatment & when their pain is severe or they are depressed, to consider or commit suicide. Besides mitigating suffering, pain control is important because, even when the underlying disease process is stable, uncontrolled pain prevents patients from working productively, enjoying recreation or taking pleasure in their usual role in the family & society. Pain control therefore merits a high priority not only for those with advanced disease, but also for the patient whose condition is stable & whose life expectancy is long. Ensuring good quality of life (QOL) in these patients is

paramount & has been the major focus of research. QOL like pain has been conceptualized as a multidimensional phenomenon, needing multidisciplinary care (4).

PAIN AND CANCER

Pain & cancer are not synonymous.

- 3/4 of patients experience pain
- 1/4 of patients do not experience pain

Multiple, concurrent pains are common.

- 1/5 have one pain
- 4/5 have 2 or more pains
- 1/3 have 4 or more pains

Pain in cancer may be:

- caused by the cancer
- caused by cancer treatment
- related to the cancer/debility
- caused by a concurrent disorder

Most common pain presentation in patients with cancer at Tata Memorial Hospital

Caused by cancer:

Bone

Soft tissue

Viscera

Related to cancer/debility:

Myofascial

Constipation

Muscle spasm

Caused by a concurrent disorder:

Low back pain

Caused by cancer treatment:

Postoperative

NEUROPHYSIOLOGICAL CLASSIFICATION OF PAIN

- Nociceptive:

  Functional: ('physiological') e.g. cramps, myofascial pain, colic

  Organic ('pathological') e.g. traumatic, cancer

- Somatic-Pain: arising from the covering of the body, i.e. skin, subcutaneous tissue.
- Visceral-Pain: arises from viscera.
- Neuropathic pain (5):

  nerve compression (e.g. sciatica)

  neural injury

  - peripheral (e.g. post herpetic neuralgia)
  - central

  sympathetically maintained pain (SMP)

Peripheral neural injury pain is sometimes called deafferentation pain

'Somatic' and 'visceral' are subdivisions of nociceptive pain.

Somatic Pain: localized & sharp pain.

Neuropathic: Burning, sharp current like shooting pain, tingling

Cramp: Occasional cramp is a universal experience in cancer. Cramp is a commonly associated with movement related to bone pain. Anxiety is a potent exacerbating factor.

Myofascial pain (6): Myofascial pain gets triggered from points in the muscles of the pectoral girdle and neck; also occur in pelvic girdle muscles.

Assessment:

Assess relief in relation to each pain. Whether pain is somatic, visceral or neuropathic or mixed, assess different components of each pain in "total pain". If marked anxiety and/or depression, proper psychological assessment of the patient is a must.

Pain intensity: Pain score should be assessed on 0-10 scale, where 0 is "no pain" & 10 is "worst possible pain". Reassessment is a continuing necessity. Old pains may get worse & new ones may develop. For pain caused by cancer, drugs usually give adequate relief provided the right drug is administered, in the right dose at the right time intervals.

METHODS OF PAIN RELIEF:

Relief of pain may be achieved by the following methods:

- Explanation
- Modification of pathological process
- Elevation of pain threshold
- Interruption of pain pathways
- Modification of lifestyles; immobilization

If disease-modifying treatment is being prescribed, this does not mean that analgesics should be withheld. Best results are usually obtained by adopting a multi-modality approach combining two or more treatments. The use of analgesics & other drugs is simply one way of elevating the patient's pain threshold, thus reducing perception of pain

Goals of pain management:

- 50% pain relief is considered good pain relief initially.
- relief at night
- relief at rest during the day

· relief on movement (this is not always completely possible)

Use of analgesics:

- "By mouth" The oral route is the preferred route for analgesics, including morphine. If patients are unable to take the drugs orally, the preferred alternative routes are rectal and subcutaneous. The relative potency ratio of oral morphine to rectal morphine is 1:1. Subcutaneous route may not be practical in patients with generalized edema, who develop erythema, soreness, or sterile abscesses with subcutaneous administration, with coagulation disorders, and with poor peripheral circulation(7).

- "By clock" Persistent pain requires preventive therapy. This means that analgesics should be given regularly & prophylactically. "As needed" medication is irrational & inhumane.

- "By ladder" Use a three-step WHO analgesic ladder(8).

Step1: Non narcotics, NSAIDS

Step2: Mild opioids,

Step3: Strong opioids (Morphine)

Morphine is still the gold standard analgesic for use in moderate to severe cancer pain. It may be started with 10 mg 4 hourly dose as per the patient's physical status & age & pain intensity. Individual variation does occur. Proper titration of morphine requires regular follow up. It is also important to control side effects i.e. constipation, nausea & vomiting, pruritis & rarely respiratory depression. There is no upper dose limit in an otherwise systemically fit patient Codeine may be used where morphine is not accessible. Codeine + ibuprofen or paracetamol combination tablets may be prescribed effectively and are available as over the counter (OTC) drugs. Pharmacologically, pain in cancer can be divided into: 1.*Opioid responsive*, i.e. pain which is relieved by opioids.2.*Opioid semi-responsive*, i.e. pain which is best relieved by the concurrent use of an opioid & an adjuvant drug. 3. *Opioid-resistant*, i.e. pain which is not relieved by opioids but by other drugs e.g. NSAIDS (Bone metastasis), antidepressants (Neuropathic pain), Steriods. Dexamethasone 0.5 mg tabs.2 tds in tapering dose for 4 weeks or methylprednisolone (mendrol) 4mg for 15 days may be quite useful in spinal cord compression, elevated ICT, bone metastasis, intestinal obstruction or plexopathy pain.

"Opioid rotation"(9). Geriatric patients may accumulate morphine-6-glucuronide and normorphine metabolites because of reduced renal function, predisposing them to agitated confusion. Opioid rotation replaces one drug with equianalgesic doses of another; this practice may be helpful in morphine-induced confusion. Long-acting morphine may be converted to oxyocodone at an equianalgesic ratio of 2:1 or to transdermal fentanyl.

"For the individual": The right dose of an analgesic is the dose that relieves the pain. European Association for Palliative Care (EAPC) (7) recommends that morphine given by mouth every four hours and the same dose for breakthrough pain given as often as required. If pain returns consistently before the next regular dose is due, the regular dose should be increased. A double dose at bedtime is a simple and effective way of avoiding being woken by pain. As death approaches, pain diminishes. Patients may withdraw and may stop eating and drinking altogether. These days may be a time of intense personal and spiritual work, and the focus of palliative care should be changed (9). A dying patient's need for analgesics may sometimes increase. In such cases where high doses of opioid are needed, benzodiazepines and/or large doses of a neuroleptic such as haloperidol may be added.

"Monitor treatment": The response to treatment must be monitored to ensure that benefits of treatment are maximized & adverse effects are minimized.

"Use adjuvant drugs": A laxative is almost always necessary with an opioid prescription. More than 50% of patients need an antiemetic. NSAIDS drugs should be added with H2 receptor blockers or proton pump inhibitors. COX-2 NSAIDS currently available in India like Roficoxib & celecoxib may be safer as they do not cause gastritis & platelet dysfunction. However even COX-2 be used with caution in renal-compromised patients. Tricyclic antidepressants (TCA) are very useful adjuvants in majority of patients to provide psychological uplift. Tab. Amitriptyline 25 mg at bedtime is usually the starting dose. It should be avoided in cardiac patients. Side effects are dryness of mouth, giddiness in the morning. Some patients continue to experience pain on movement despite analgesics. Surgery, chemotherapy, radiotherapy & Anesthetic approaches (nerve blocks) may sometimes be useful, in controlling the pain optimally. Physiatric & psychologic methods are used as good complimentary tools in relieving pain. The situation may also be improved by suggesting modifications to the patient's way of life by using various rehabilitative methods.

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