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A BRIEF REVIEW ON PAIN MANAGEMENT IN CANCER PATIENTS

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ABSTRACT Palliative care refer to any care that alleviates symptoms, whether or not there is hope of a cure by other means. It is not only reserved for patients in end-of life care, it can also improve the quality of life, decrease depressive symptoms and increase the patient's length of life in a better way. Palliative care increases comfort by lessening pain, controlling symptoms, and lessening stress for the patient and family, and should not be delayed when it is indicated. Pain significantly decreases the quality of the life of the patients at an advanced stage, so it becomes important to manage the pain and to reduce the physical and psychosocial burden to the patient and family. Management of pain is done in an analgesic ladder method and medications are given on a routine schedule. Opioids are often used to control somatic or visceral pain and for neuropathic pain anticonvulsants or combination of morphine with gabapentin can be used. Other modalities to control pain are radiotherapy, complimentary therapies. In some cases interventional management is required.

KEYWORDS : PAIN, OPIOIDS, BONE METASTSES.

Palliative means "to cloak" It refers to specialized medical care for people with serious illnesses. It is focused on providing patients with relief from the symptoms, pain and stress of a serious illness — whatever the prognosis (1).

World Health Organization (W.H.O) definition of palliative care; Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual (2).

The goal of palliative care is to prevent or treat, as early as possible, the symptoms and side effects of the disease and its treatment, in addition to the related psychological, social, and spiritual problems. Palliative care is also called comfort care, supportive care, and symptom management.

Palliative care in cancer patients, should begin from the time diagnosis made and continue through treatment, follow up care, and the end of life.

Palliative care can be given by any medical professional. A palliative care specialist is a health professional who is specialized in treating the symptoms, side effects, and emotional problems experienced by the patients. Palliative care specialists work as a team known as multidisciplinary team to coordinate care. This team may consists of doctors, nurses, registered dieticians, pharmacists and social workers.

Palliative care improve the quality of life by reducing the distress caused by the symptoms of disease (3).

The key part of palliative care is, to make the transition from curative treatment to end-of-life care. A patient may also receive palliative care at home, either under a physician's care or through hospice.

There are multiple distressing symptoms affecting hospitalized patients having advanced, life threatening illnesses (4, 5), where some of these may lead to the death of the patient (6) .Palliative care is given in addition to the treatment. Conditions or disease that are poorly controlled are advanced cancers, chronic obstructive pulmonary disease (COPD), congestive heart failure, and many other life threatening conditions (7, 8).

The worldwide need for palliative cancer care to relieve the suffering of patients and families living with cancer is greater than ever.

PAIN

Pain is the most feared symptom of cancer patients. Edmonton Symptoms Assessment Scale (ESAS) in which there are eight visual analog scales (VAS) ranging 0 to 10, indicating the levels of pain, activity, nausea, depression, anxiety, drowsiness, appetite and sensation of well-being(9),sometimes shortness of breath is also added (10).

Nonverbal indicators of discomfort like grimacing, moaning, or repeatedly rubbing a body part can used to evaluate the severity of pain in case patient is not able to tell or describe the discomfort or in a case of small children.

MEDICAL MANAGEMENT

Mild pain- should initially be treated with non-steroidal anti-inflammatory drug (NSAID). Opioids can be added if needed.

Moderate to severe pain- first line drug to treat patient with moderate pain are opioids (11), most commonly morphine sulphate or hydromorphine are used. Various long-acting formulations, such as transdermal fentanyl patches, are appropriate for patients receiving stable opioid doses.

Severe pain- initially frequent bolus doses of an opioid is administered so that a satisfactory degree of analgesia is achieved, when the patients is found comfortable, regular dose is started-which is given by continuous infusion –to prevent further pain, as well as intermittent bolus doses as needed for episodic worsening of pain.

For the management of pain W.H.O. has given analgesic ladder method;

Step1 use NSAIDS,
Step2 use weak opioids like codeine,
Step3 use strong opioids like morphine.

Typically the medications are given on routine schedule (by the clock) rather than waiting for certain level of pain is reached.

By using this schedule 70% to 76% of patients can get sufficient pain relief (12, 13).

Common side effects of opioids are constipation, sedation, confusion, pruritus, nausea, myoclonus, and urinary retention (14).

Rotation to another opioid should be done ,if there is dose-limiting side effects, toxic effects, or in case of incomplete analgesia (15).

Main strategies are implemented in balancing analgesic effects and side effects (16, 17).

Neuropathic pain should be distinguished from somatic or visceral pain, since opioids alone may not provide adequate analgesia for patients with neuropathic pain (18), so other classes of medications are prescribed (19). Anticonvulsants, such as gabapentin, carbamazepine, and pregabalin are found to be effective in the management of neuropathic symptoms (20). The combination of morphine with gabapentin produces analgesia that is more effective than that provided by either agent alone (21).

RADIATION THERAPY

Palliative radiotherapy is used to relieve pain from brain and bony metastases. Pain improvement is seen in 60% to 80% patients and complete pain relief is seen in 15% to 40% of the cases (22). The response to the treatment depends on a large number of factors like sex, primary site, performance status, histology, type of lesion, location of metastases, level of pain prior to the treatment, site of disease (weight bearing or non-weight bearing site), number of painful sites. When a patients shows improvement in pain after radiotherapy, there is also improvement in emotional functioning, decreased constipation, decreased insomnia that leads to improvement on the quality of life scores (23).

Radiation therapy should be an integral part of palliative treatment for pain in bone metastases and also for the treatment for other symptoms (24).

Several conclusions were made after multiple randomized, prospective trials done in the last 30 years, comparing shorter-course, lower-total-dose treatment to the more "standard" longer-course, higher-dose treatment:

- Similar pain relief was provided by single-dose treatments of 8 Gy and longer-treatment regimens. (30 Gy in 10 fractions or 20 to 24 Gy in five to eight treatments).
- Response rates are higher when scored by the treating physician instead of by the patient.
- Response rates are better when the initial pain scores are lower
- For palliation of bone metastases no consistent dose –response relationship was found.
- The retreatment rates are higher after short-course treatment by a factor of 2 or 3.

Response rates to palliative radiation therapy for localized sites of pain are found to be higher than response rates from palliative systemic therapy, and palliative external-beam radiation therapy is mainly given for the treatment of clinically localized painful bone metastasis.

COMPLEMENTARY THERAPY

Hypnosis, massage, music therapy, mind-body exercises, biofeedback, and dietary supplementation have been shown to reduce anxiety and chronic pain (25).

INTERVENTIONAL MANAGEMENT

Only some cases requires interventional procedures to achieve pain relief were medicine (oral or intravenous) given for pain relief, become insufficient (due to tolerance), or side effects occurs that are intolerable. Interventional management includes Neuroablation, Peripheral nerve blocks, and Neuroaxial and implantable techniques.

REFERENCE

1. "Effective Palliative Care Programs Require Health System Change". Agency for Healthcare Research and Quality. 2013-04-17. Retrieved 2013-09-24.
2. "WHO Definition of Palliative Care". World Health Organization. Retrieved March 16, 2012.
3. Higginson IJ, Evans CJ. What is the evidence that palliative care teams improve outcomes for cancer patients and their families? Cancer J 2010;16:423-435.
4. McCarthy EP, Phillips RS, Zhong Z, Drews RE, Lynn J. Dying with cancer: patients' function, symptoms, and care preferences as death approaches. J Am Geriatr Soc 2000;48:Suppl:S110-S121.
5. Puntillo KA, Arai S, Cohen NH, et al. Symptoms experienced by intensive care unit patients at high risk of dying. Crit Care Med 2010;38:2155-2160 .
6. Hui D, Santos RD, Chisholm GB, Bruera E. Symptom expression in the last seven days of life among cancer patients admitted to acute palliative care units. J Pain Symptom Manage2014September19 (Epub ahead of print).
7. Levenson JW, McCarthy EP, Lynn J, Davis RB, Phillips RS. The last six months of life for patients with congestive heart failure. J Am Geriatr Soc 2000;48:Suppl:S101-S109.
8. Elkington H, White P, Addington-Hall J, Higgs R, Edmonds P. The healthcare needs of chronic obstructive pulmonary disease patients in the last year of life. Palliat Med 2005;19:485-491.
9. Bruera E; Kuehn N; Miller MJ; Selmser P; Macmillan K (1991). "The Edmonton Symptom Assessment System (ESAS): A simple method for the assessment of palliative care patients". Journal of palliative care. 7 (2): 6–9.
10. Edmonton Symptom Assessment System (ESAS) from Cancer Care Ontario. Revised 2005 February
11. Caraceni A, Hanks G, Kaasa S, et al. Use of opioid analgesics in the treatment of cancer pain: evidence-based recommendations from the EAPC. Lancet Oncol 2012;13:e58-e68.
12. Meuser T, Pietruck C, Radbruch L, et al.Symptoms during cancer pain treatment following WHO-guidelines:a longitudinal follow up study of symptom prevalence, severity and etiology. Pain 2001;93:247-257.
13. Zech DF, Grond S, Lynch J, et al.Validation of World Health Organization guidelines for cancer pain relief:a 10 years prospective study. Pain 1995;63:65-76.
14. McNicol E, Horowicz-Mehler N, Fisk RA, et al. Management of opioid side effects in cancer-related and chronic noncancer pain: a systematic review. J Pain 2003;4:231-256.
15. Quigley C. Opioid switching to improve pain relief and drug tolerability. Cochrane Database Syst Rev2004:CD004847-CD004847.
16. Cherry NI, Portenoy RK. Cancer pain management. Current Strategy. Cancer1993;72(11 Suppl):3393-3415.
17. McNicol E,et al. Management pf opioid side effects in cancer-related and chronic noncancer apin: a systematic review. J Pain 2003;4(5):231-256.
18. McNicol ED, Midbari A, Eisenberg E. Opioids for neuropathic pain. Cochrane Database Syst Rev 2013;8:CD006146.
19. Milch RA. Neuropathic pain: implications for the surgeon. Surg Clin North Am 2005;85(2):225-236.
20. Hagen NA, et al. The Birmingham International workshop on Supportive, Palliative, and End-of-life Care Research. Cancer 2006;107(4):874-881.
21. Gilron I, Bailey JM, Tu D, Holden RR, Weaver DF, Houlden RL. Morphine, gabapentin, or their combination for neuropathic pain. N Engl J Med 2005;352:1324-34.
22. Wu JS, wong R, Johnston M, et al. Meta-analysis of dose-fractionation radiotherapy trials for the palliation of painful bone metastases. Int J Radiat Oncol Biol Phys 2003;55:594-605.
23. Caissie A, Zeng L, Nguyen J, et al. Assessment of health-related quality of life with European organization for research and treatment of cancer QLQ-C15-PAL after palliative radiotherapy of bone metastases. CLIN Oncol (R Coll Radiol)2021;24:125-133.
24. Lutz S, Berk L, Chang E, et al. Palliative radiotherapy for bone metastases: an ASTRO evidence-based guideline. Int J Radiat Oncol Biol Phys2011;79;965-976.
25. Deng G, Cassileth BR. Integrative oncology : complimentary therapies for pain, anxiety, and mood disturbance.CA Cancer J Clin 2005;55(2):109-116.