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Review Article

Addressing Pain in The Oncologic Patient: The Therapeutic Possibilities in The Pharmacological and Interventionist Field

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Abstract

Cancer is the second cause of death worldwide, presenting a number of different symptoms, with pain being present in up to 66% of these patients, being characterized as one of the most invalidating symptoms, which may be present regardless of the stage of the disease, either as the first symptom, during diagnosis and treatment or in advanced stages of disease. Thus, this work aims to address the various means of analgesia for cancer patients. Among the approaches are included from the steps established by the pain scale recommended by the World Health Organization, to the approach of interventionist techniques currently in use, giving greater prominence to the use of anesthetics, by different routes of administration (oral, subcutaneous, itratectal, neuroaxial and neuronal blocks), such as safe and effective analgesia for cancer patients.

Keywords: Cancer; Pain; Analgesia

Introduction

The World Health Organization (WHO) states that cancer is the second leading cause of death worldwide, accounting for about 9.6 million deaths, or one in six deaths, in 2018. The National Cancer Institute describes as some of the symptoms of cancer change in breasts, difficulty, pain or blood when urinating, eating problems such as difficulty swallowing, nausea, vomiting, change in appetite, fatigue, fever or night sweating, weight gain or loss without known reason, among others. According to Caraceni [1], pain in the oncologic population is one of the most invalidating symptoms, affecting approximately 66% of patients. The pain of these patients is composed of different conditions, characterized by different etiologies, characteristics and pathological mechanisms. It is estimated that, regardless of stage, up to half of cancer patients feel pain at some point of the disease. Pain in the oncologic patient may manifest as the first symptom of this pathology, during its diagnosis and even during treatment, accompanying the patients to the advanced stages of the disease, where the largest proportion of oncologic patients with pain are found. In view of this, this article aims to address the different management of pain in oncologic patients, with emphasis on interventionist measures and the use of anesthetics for better pain relief.

Pain and Oncologic Patient

In view of this, Borda and collaborators, define the general principles of pain management in oncologic patients, with the objective of prolonging survival, optimizing comfort, optimizing function ability and pain relief. In addition, the pain leads to several repercussions, such as insomnia, worry, despair, isolation, depression, among others. Therefore, an individualized treatment for each patient is necessary, besides a multidisciplinary follow-up, involving psychological and physiotherapeutic follow-up. Thus, the World Health Organization (WHO) has developed a three-step 'ladder' to assist pain management in oncologic patients, characterized by the progression of different drug classes, starting with the first step with non-opioids, progressing as necessary to the second step composed of the light opioids, then to the third step, the strong opioids and, if necessary, the use of adjuvant drugs. This approach has proven cheap and effective, and adjuvant therapies should be individualized for each patient if the drugs are not fully effective. On the first step on the 'ladder' of WHO pain include acetaminophen and nonsteroidal anti-inflammatories (NSAIDs), the dose of both drugs is limited by a maximum effect, which when reached there is no benefit in increasing the dose. The second step, composed of mild opioids, is recommended for mild to moderate oncologic pain and includes drugs containing hydrocodone, oxycodone, codeine and tramadol, as well as propoxyfen and dihydrocodeine. Finally, on the third step, WHO recommends its use as first-line therapy for moderate to severe pain, and consists of strong opioids such as: morphine, oxycodone, hydromorphone, fentanyl, levorphanol, methadone (Prommer, 2015) (Figure 1).

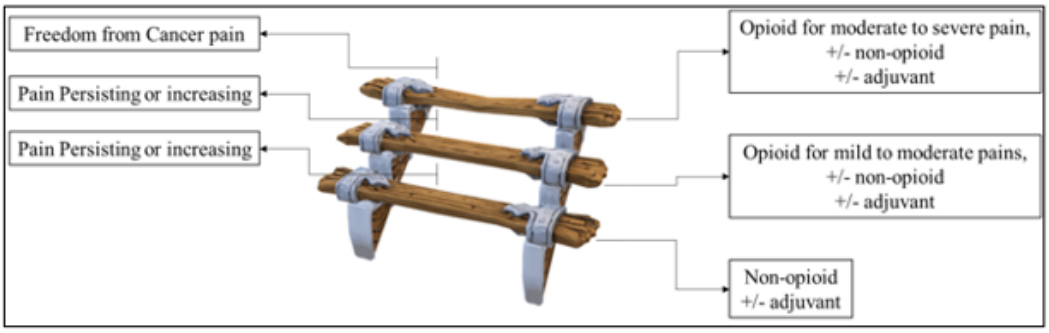

Figure 1: Stages of analgesia according to the World Health Organization guidelines. Adapted from World Health Organization, 2018.

Interventionist Actions in Oncologic Pain

Also, according to Prommer [2], there are interventionist modalities, and treatment options include nerve blocks, as well as spinal administration of anesthetics, opioids and other adjuvants. And the adjuvant therapies, which consist of drugs in which their primary indications differ from pain relief, but which have analgesic properties, such as: antidepressants, anticonvulsants, muscle relaxants, corticosteroids, neuroleptics, oral, parenteral and intradermal anesthetics. Thus, the use of anesthetics for the treatment of pain in oncologic patients stands out, and according to Sharma and collaborators [3], the use of only one dose of lidocaine showed improvement in analgesia, Ripamonti [4], reports that the initial recommended dose is 1 to 5 mg/kg infused for 20 to 30 minutes, and should be avoided in patients with coronary artery disease and can be administered subcutaneously. Ketamine, an anesthetic antagonist NMDA (N-methyl-D-aspartate), has been shown to be effective in the management of oncologic pain and its use generally leads to a reduction in the dosage of opioids in use [5]. There are also interventionist techniques in the management of pain in oncologic patients, with emphasis on anesthetic approaches, such as neuroaxial analgesia, sympathetic blocks of the celiac plexus and upper hypogastric and peripheral nerve block. Neuroaxial analgesia is usually adopted when systemic analgesics are depleted and the addition of local anesthetics or other adjuvants such as clonidine and ketamine to opioids is often considered, and there are reports that pain intensity and quality of life improve with the addition of ropivacaine. The sympathetic blockade of the celiac plexus and superior hypogastric are indicated for patients with abdominal pain with visceral mechanism, this blockade occurs through the injection of local anesthetics. Finally, the peripheral nerve blockade stands out, which consists of applying local anesthetics to block the nociceptive entrance signaling to the central nervous system, the main anesthetics in use are lidocaine, bupivacaine and ropivacaine, Lidocaine is normally considered a local anesthetic of intermediate action (1.5-3 h), while bupivacaine and ropivacaine are local anesthetics of long action (4-18 h), therefore, for long term therapy with local anesthetics, bupivacaine or ropivacaine are the most adequate [6].

Deer and collaborators [7] also compared the action of Morphine (opioid analgesic) and Ziconotida (non-opioid analgesic) in intratectal application for pain relief in patients with chronic pain associated or not with cancer. Intratectal administration offers benefits over oral analgesics, since they are applied directly at the site of action in the dorsal horn of the spinal cord. In the end, it has been proven that both are effective as first line monotherapy

for analgesia in cancer patients, giving priority to Ziconotida. Finally, according to Van den Beuken-Van and Cols [8], up to 40% of survivors of cancer have pain and in 5 to 10% the pain is chronic and severe. Therefore, the need for an analgesic approach in oncologic patients, associated with adjuvant therapies, is evident, and the use of anesthetic by different routes of administration has shown beneficial results for pain control and improvement of quality of life in these patients, in addition to reducing the use of opioids, which, if used in the long term, may present side effects, and may lead to greater dependence and overdose [9-29].

Final Remarks

Thus, this work has allowed an overview of the existence of a great diversity of treatments for pain relief in oncologic patients, and interventionist techniques, especially the use of anesthetics, are increasingly being used, either in monotherapy or in adjuvancy, in patients with difficult control, given the promising results in controlling pain symptoms. Faced with this, the knowledge of certain techniques can help health professionals to perform a more precise and resolutive indication, besides guaranteeing a better quality of life and survival to oncologic patients. Finally, there is a lack of research on the use of such techniques in the primary care of these patients, and new studies are needed to evaluate the possible advantages of using them in primary health care.

Acknowledgment

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Conflict of Interest

No conflict of interest.

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