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Case Report

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Pain Management in Metastatic Recurrent Carcinoma Rectum, Local and Nodal Metastasis Case

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Abstract

The heterogeneity of pain mechanisms is evident in the variable nature of cancer pain intensity and its clinical characteristics. Traditional classifications of pain within the cancer population involve distinguishing pain etiology, clinical characteristics related to both pain and the patient, pathophysiology, and the application of validated classification systems. Concepts such as breakthrough, nociceptive, neuropathic, and mixed pain are essential in the assessment of pain in this patient population. This case report elucidates the pain management in cancer patients, emphasizing its sophistication and complexity. It highlights the challenges faced by medical oncologists in administering anticancer therapy in such cases.

Introduction

In the oncological population, pain constitutes one of the most debilitating symptoms, affecting approximately 66% of cancer patients. The World Health Organization (WHO) established guidelines for managing cancer pain in 1986; however, substantial evidence indicates that cancer pain management often remains suboptimal. Given that cancer pain is not a homogeneous entity, accurate pain assessment is crucial for achieving satisfactory management. Cancer pain encompasses a wide range of conditions, each characterized by distinct aetiology, characteristics, and pathological mechanisms. The significance of adequate pain assessment and the complexity of cancer pain have long been emphasized. Considering the importance of pain classification in facilitating individualized assessment and tailored treatment strategies, several studies have attempted to develop a comprehensive approach to classify cancer pain over the years. Nonetheless, a universally accepted standardized classification system has yet to be established, and various cancer pain classification schemes are employed in both research and clinical settings [1-10].

Case Presentation

29 years old / Male: (Diagnosis)

Metastatic Recurrent Carcinoma Rectum, Local and Nodal Metastasis

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(Low probability of MSI H) (PDL 1-0%, NRAS MUTATION negative, KRAS MUTATION negative)

1. S/P C3DAY 15 Palliative FOLFIRI Chemotherapy
2. S/P 3rd Cycle Bevacizumab
3. Cycle 4 Day 15 Palliative FOLFIRI Chemotherapy

Previous history:

1. NACTRT 50GY/28# (23/07/2021 to 28/08/2021) with Capecitabine Defaulted
2. Surgery:
3. Lap Assissted Apr (15/02/2022), MTH

- ypT3N0M0-stage III

4. S/P 7 CYCLE ADJUVANT CAPOX CHEMOTHERAPY (LD 21/10/2022) (30/01/2023)

History

Patient is a known case of carcinoma rectum. In admission time (16.06.2023) he was complaining generalized weakness, vomiting and body pain while he admitted for cycle 4 day 1 of FOLFIRI (Tables 1-5).

Table 1

On Examination
Ht-172cm, Wt-69kgs, BSA- 1.8 sqm
BP-120/70mmHg, CVS/RS- Clinically NAD, PA: Colostomy Bag+

Table 2

Investigations
Hb-10.7g/dl, TC-5060/mm3, Platelates-4.350/mm^3, N-63.6%, TB-0.77mg/dl, DB-0.26mg/dl, OT/PT – 23/13U/L, Na/K/Cl- 129/4.4/105mEq/L, creatinine: 0.61mg/dl

Table 3:

Drugs	Dose	Date
TAB PERINORM	10mg 1-0-1	16.06.2023 TO 19.06.2023
TAB RIVAROXABAN	10mg 0-0-1	16.06.2023 TO 19.06.2023
TAB EMESET	8mg 1-1-1	16.06.2023 TO 19.06.2023
INJ PARACETAMOL	1mg IV Slow infusion over 30 min.SOS	16.06.2023 TO 19.06.2023
TAB TRAMADOL	50mg 1-1-1	16.06.2023 TO 19.06.2023
TAB DOLO	650mg 1-1-1-1	16.06.2023 TO 19.06.2023
SYP CREMAFFIN PLUS	30ml 1-0-1	16.06.2023 TO 19.06.2023

Table 4

On 17.06.2023 Day 1 75% DOSE
Inj GRANISET 1mg slow IV push
Inj DEXONA 12mg in 100ml NS IV push
Inj RANTAC 50mg slow IV push
Inj ATROPINE 2cc IV slow push
Inj IRINOTECAN 250mg in 250ml 5% D IV over 2hrs
Inj LEUCOVORIN 300mg in 250ml 5% D IV over 2hrs
(Administer Oxaliplatin and Leucovorin concurrently using 3 way extension)
Inj 5FU 1500ml NS IV over 22hrs
On 18.06.2023
Day 1 5FU on flow

Inj GRANISET 1mg slow IV push
Inj DEXONA 12mg in 100ml NS IV over 30 mins
Inj RANTAC 50mg slow IV push
Inj 5FU 1500mg in 500ml NS IV over 22hrs
On 19.06.2023
Inj 5FU on flow

Table 5

Advice In Discharge:
Tab RIVAROXABAN 10mg 0-0-1(to continue)
Tab EMESET 8mg 1-1-1 for 7 days
Tab OLEANZ 2.5mg 1-0-1 for 7 days
Tab PERINORM 10mg 1-1-1 for 3 days
SYP MUCAINE GEL 10ml 1-1-1 to continue
BUVALOR PATCH 10MCG to continue (once in 7 days)
Cap BECOSULES 1-0-0 to continue
Tab RANTAC 150mg 1-0-1 for 5 days
Tab TRAMADOL 50mg SOS/1-1-1 if pain
SYP CREMAFFIN PLUS 20ml 0-0-1 if required for constipation

PIR (Pain Index Rate) Evaluation: Brief Pain Inventory

Since 28.04.2023, the patient had been monitored regarding the Pain Index Rate, which was initially 8. On 16.06.2023, the patient continued to report abdominal pain, and the PIR fluctuated between 9 and 4. A prospective study involving a large cohort of oncological patients revealed that approximately 17% of the pain experienced in this population is attributable to antineoplastic treatment, while around 10% is due to other etiologies unrelated to cancer. Therefore, it is imperative to ascertain whether the pain experienced by oncological patients is tumor-induced, treatment-related, or associated with other comorbidities, to ensure the provision of appropriate treatment [11].

Pain Assessment in Cancer Patients

Uncontrolled pain can impede healing and recovery, resulting in suboptimal outcomes for cancer patients. Although cancer pain can be effectively managed in up to 90% of cases, current evidence indicates that nearly half of cancer patients in developed countries receive inadequate pain management. The primary obstacle to effective cancer pain control is the insufficient assessment and reassessment of pain. Despite widespread recognition of this issue, cancer pain remains a significant concern [12-20].

The definition of cancer pain is inherently complex due to the intricate nature of its origins and the multifaceted influences—biological, psychological, social, and cultural—on its perception. In 1972, Margo McCaffery, a registered nurse and a pioneer in pain management nursing, articulated pain as "whatever the experiencing patient says it is, and exists whenever he/she says it does." This definition underscores the subjective nature of pain and highlights the significance of the patient's personal experience in understanding pain [21-28].

Cancer pain originates from a variety of etiological factors, with approximately 75% of the pain directly attributable to the malignancy itself, while the remainder is associated with diagnostic procedures and therapeutic interventions. Tumors induce pain by compressing or invading healthy innervated tissue, instigating inflammation or infection, or releasing chemicals that render normally non-painful stimuli painful. Consequently, cancer pain is frequently categorized as somatic, visceral, or neuropathic in origin. In advanced cancer, multiple pain mechanisms often manifest concurrently at different sites. Each mechanism and anatomical site necessitates focused investigation. For instance, a patient with advanced cancer may experience liver capsule pain due to liver metastases, back pain from spinal metastases, and neuropathic pain resulting from systemic chemotherapy regimens. The management of such pain may require the use of corticosteroids, radiotherapy, and antiepileptics for liver, bone, and neuropathic pain, respectively. In such cases, pain management would be inadequate if each source of pain were not meticulously considered and assessed. The assessment of pain primarily relies on patient self-reporting. The most significant obstacles related to patients include their hesitance to disclose pain and to adhere to treatment

recommendations. In certain instances, patients may underreport pain due to various factors, such as the belief that cancer-related pain is inevitable and should be tolerated, concerns that reporting pain might detract from the focus on treating the primary disease, and fears that pain may indicate disease progression. It is crucial to recognize that cancer and pain are not synonymous, and not all cancer patients experience pain. Inadequate assessment of pain and insufficient knowledge among clinicians have been identified as significant barriers to effective cancer pain management. Medical graduates bear the ultimate responsibility for the identification, assessment, and treatment of patients experiencing cancer-related pain. Consequently, the International Association for the Study of Pain (IASP) has emphasized the importance of integrating pain management into undergraduate education and has developed a corresponding curriculum. Nevertheless, various studies indicate that the subject of pain, particularly cancer pain, is currently insufficiently addressed in medical education [29].

The observation that certain survey respondents tend to both prescribe one of the available medications and determine the dosage, while simultaneously avoiding as-needed therapies to prevent patient confusion by prescribing slightly higher doses than those deemed effective for that type of pain, underscores a pronounced empiricism in the treatment of pain with opioids. This highlights the necessity to enhance the foundational knowledge of this subject and to adhere to precise and structured guidelines. Nevertheless, dynamic, multidimensional, and personalized approaches may be more suitable for tailoring therapy to the patient's needs, particularly for opioid-naïve patients [29] (Figure 1)

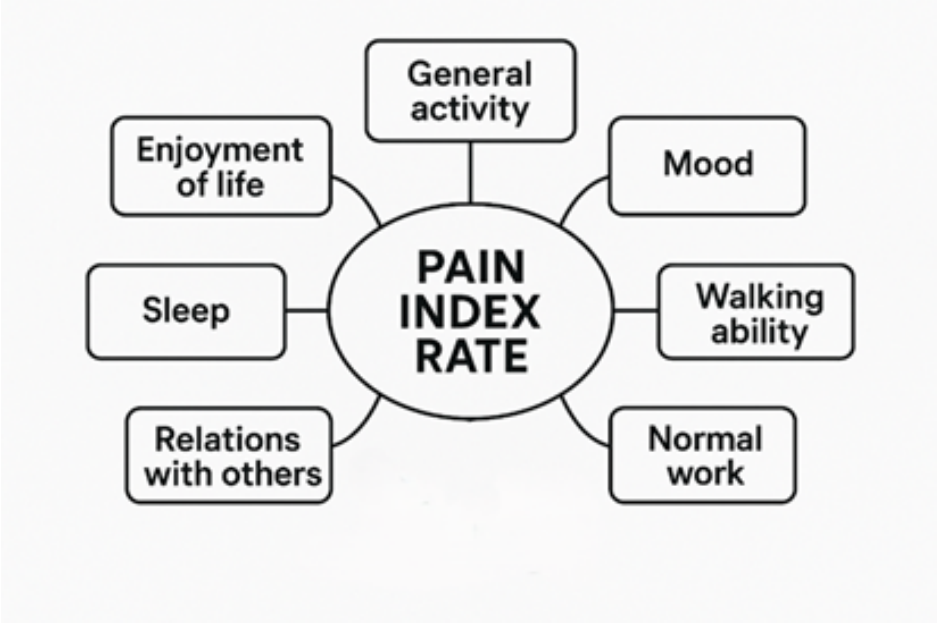

Figure 1: Components of Pain Interference in the Brief Pain Inventory (BPI).

This diagram illustrates the seven domains used to assess the degree to which pain interferes with daily functioning as measured by the Brief Pain Inventory. The Pain Index Rate is represented at the centre, indicating the overall impact of pain on an individual's life. The seven interference domains include general activity, mood, walking ability, normal work, relations with others, sleep, and enjoyment of life. Each domain is rated on a 0–10 numeric scale, where higher scores indicate greater interference due to pain [30,31].

Conclusion

Pain management can be accomplished through various approaches, with medication forming the cornerstone of analgesic therapy. In recent years, the clinical application of combining analgesic drugs has significantly increased. The aim of using two or more drugs with distinct mechanisms of action is to create a synergistic effect [32], which allows for effective pain relief with reduced dosages, thereby minimizing the severity and frequency of adverse effects. Currently, a wide range of drug classes effectively complement nonsteroidal anti-inflammatory drugs (NSAIDs), acetaminophen, or opioids in pain management. However, it is important to note that the effectiveness of a drug combination is contingent upon the specific type of pain being addressed (acute/chronic, inflammatory, neuropathic, cancer). For instance, opioids are often combined with acetaminophen or NSAIDs for the clinical treatment of both acute and chronic pain. Similarly, the combination

of NSAIDs and acetaminophen is administered to alleviate pain in patients. Ultimately, these combinations help limit the medication doses a patient receives. Nevertheless, not all combinations of opioids with NSAIDs, opioids with acetaminophen, or NSAIDs with acetaminophen are clinically effective in every situation. For example, pairing weak opioids like dextropropoxyphene with acetaminophen does not significantly enhance pain relief compared to using acetaminophen alone [33]. Administering rectal acetaminophen in conjunction with ibuprofen does not enhance pain relief following an adenoidectomy in the immediate postoperative phase compared to using either medication on its own [34]. Similarly, while combining codeine with paracetamol offers additional pain relief, it may also lead to increased occurrences of nausea, dizziness, vomiting, and constipation [35]. Consequently, it is essential to experimentally or clinically assess various other combinations of analgesic agents to understand their potential clinical applications.

Medical oncologists recognize both the advantages and potential risks associated with combination therapies for pain management. They are also aware that NSAIDs may produce significant adverse effects when used concurrently with other commonly prescribed medications, such as anticoagulants, corticosteroids, and antihypertensive agents. Even so, the complexity of cancer patients' status particularly among those in metastasis cases of disease who experience severe pain often requires the prudent use of these therapeutic combinations to achieve adequate comfort and symptom relief, accompanied by close monitoring and vigilance. Ultimately, providing patients with clear and comprehensive guidance on the safe and appropriate use of analgesic combinations remains essential.

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Conflict of Interest

None.

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