Handbook of Cancer Pain Care (Public Version)

衛生福利部
食品藥物管理署
Taiwan Food and Drug Administration

Preface

Since the year 2017, for seven consecutive years, the Ministry of Health and Welfare has reported that the leading cause of death among the population is malignant neoplasms (cancer), indicating that a considerable number of individuals in the country are afflicted with malignant tumors. Cancer patients often experience acute and chronic inflammation, tissue contraction, and pain due to tumor invasion of bones, nerves, organs, or soft tissues.

In an effort to enhance cancer patients' awareness of pain treatment and the use of narcotic drugs, our organization has entrusted Chi Mei medical center, to collaborate with experts and scholars in pain medicine, anesthesiology, psychiatry, rehabilitation, surgery, urology, oncology, radiology, palliative medicine, traditional Chinese medicine, pharmacy, and nursing from within the country to collectively compile this handbook. The handbook is structured into chapters, covering various aspects of cancer pain, including its causes, assessment methods, care objectives and strategies, pharmacological and non-pharmacological treatment approaches, traditional Chinese medicine treatment, patient self-care, and caregiver education.

We hope that this handbook will be a valuable resource for caregivers and individuals who are experiencing cancer pain, providing them the guideline to alleviate pain, enhance quality of life, and ensure safety administration of medications.

Director-General of Taiwan Food and Drug Administration,
Ministry of Health and Welfare

Editor's Note

EDITORIAL BOARD MEMBERS

Handbook of Cancer Pain Care

(Public Version)

Hsiu-Chin Chen, RN, PhD, Assistant Professor

Vice Superintendent & Chief Director of Nursing Departments, Chi Mei Medical Center

Yu-Lin Wang, MD, PhD, Associate Professor

Director, Department of Rehabilitation, Chi Mei Medical Center

Jen-Yin Chen, MD, PhD, Professor

Director and Division Head of Pain Medicine, Department of Anesthesiology, Chi Mei Medical Center

Chin-Chen Chu, MD, PhD, Professor

Vice Director and Division Head of Women & Children's Anesthesia, Department of Anesthesiology, Chi Mei Medical Center

Pei-Hsin Kao, MD

Division Head of Geriatric Psychiatry, Department of Psychiatry, Chi Mei Medical Center

Wan-Ting Hsieh, MD, Assistant Professor

Director, Department of Palliative Medicine, Chi Mei Medical Center

Yin-Hsun Feng, MD, PhD, Professor

Director of Cancer Center and Department of Hematology/Oncology, Chi-Mei Medical Center

Yao-Chin Hsu, MD, PhD, Assistant Professor

Director, Department of Chinese Medicine, Chi Mei Medical Center

Hui-Chen Su, Pharmacist, Associate Professor

Director, Department of Pharmacy, Chi Mei Medical Center

Ya-Ting Ke, RN, PhD, Assistant Professor

Supervisor, Department of Nursing, Chi Mei Medical Center

Contents
Handbook of Cancer Pain Care
(Public Version)

CONTENTS

Handbook of Cancer Pain Care

(Public Version)

CONTENTS
Handbook of Cancer Pain Care
(Public Version)

Chapter 1

Overview of Cancer Pain Care

1. Introduction

1.1. The International Association for the Study of Pain defines pain as an unpleasant sensation and emotional experience, usually caused by actual or potential tissue damage.

1.2. Cancer pain is defined as pain caused by cancer. Different types of cancer may have different causes and manifestations of pain.

2. Causes of cancer pain

2.1. The main causes of cancer pain (acute or chronic) are as follows:

(1) Pain caused by tumor invasion.

(2) Pain caused by cancer examinations or treatments.

(3) Pain caused by unidentified factors.

2.2. Due to the impact of cancer and its pain on a person's physical and psychological status and social support , treatment should be approached from multiple perspectives.

3. Goals of cancer pain care

3.1. Overall goal: Alleviate pain, restore physical function, and improve quality of life.

3.2. Sub-goals:

(1) Alleviate physical pain and restore physical function.

(2) Maintain good emotional well-being and improve quality of life.

(3) Strengthen social support (family, friends, community) .

4. Methods of cancer pain care (Figure 1)

4.1. Tumor treatments: Surgical treatment, radiation therapy, chemotherapy, immunotherapy, and hormone therapy.

4.2. Nerve block.

4.3. Rehabilitation therapy.

4.4. Psychological therapy.

4.5. Medication therapy.

4.6. Other treatments.

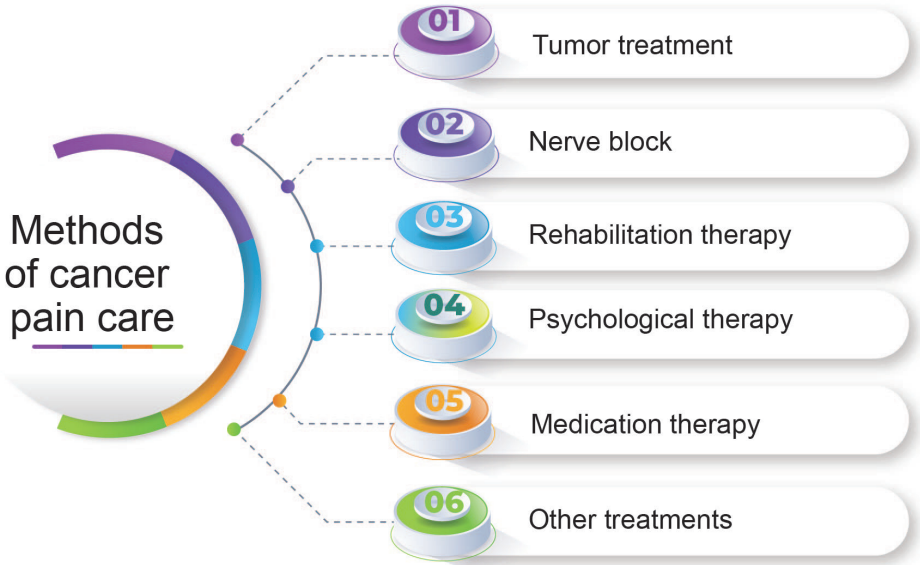


Figure 1. Methods of cancer pain care

5.Analgesic medications for cancer pain care

5.1. There are many methods to alleviate cancer pain, and using analgesic medications is one option. Analgesic medications can be broadly divided into two categories: non-opioid analgesics and opioid analgesics.

5.2. The World Health Organization released the three-ladder analgesic medication treatment model for cancer pain in 1986, as follows:

(1) Ladder 1 (mild pain): Use non-opioid medications such as acetaminophen, aspirin, or non-steroidal anti-inflammatory drugs, and add other adjuvant medications if necessary.

(2) Ladder 2 (mild to moderate pain): Use weak opioid medications such as codeine and tramadol, and add medications from Ladder 1 if necessary.

(3) Ladder 3 (moderate to severe pain): Use strong opioid medications such as morphine and fentanyl, and add medications from Ladder 1 if necessary.

Note: The World Health Organization's version after 2012 allows for the direct selection of appropriate ladders and analgesic medications based on the severity of pain, without the need for sequential progression. In Ladder 2, low-dose strong opioid medications can also be used directly.

5.3. Non-opioid analgesics can be used alone for mild pain according to the patient's condition. For moderate to severe pain, they can be used in combination with opioid analgesics.

5.4. Non-opioid analgesics used for cancer pain treatment include acetaminophen, non-steroidal anti-inflammatory drugs, antidepressants, antiepileptic drugs, local anesthetic patches and corticosteroids.

6. Self-care for patients

6.1. Understanding cancer, cancer pain, and treatment planning.

6.2. Strengthening the body's health status.

6.3. Maintaining a positive mood.

6.4. Strengthening spiritual support .

6.5. Strengthening social (interpersonal) support.

7. Information for family members and caregivers (Figure 2)

7.1. Understanding the patient's condition and the treatment they will receive.

7.2. Assisting the patient in receiving treatment.

7.3. Ensuring the safety of the patient's medication.

7.4. Assisting patients in promoting physical and mental health and releasing stress.

7.5. Self-relief and enhancing resilience for caregivers.

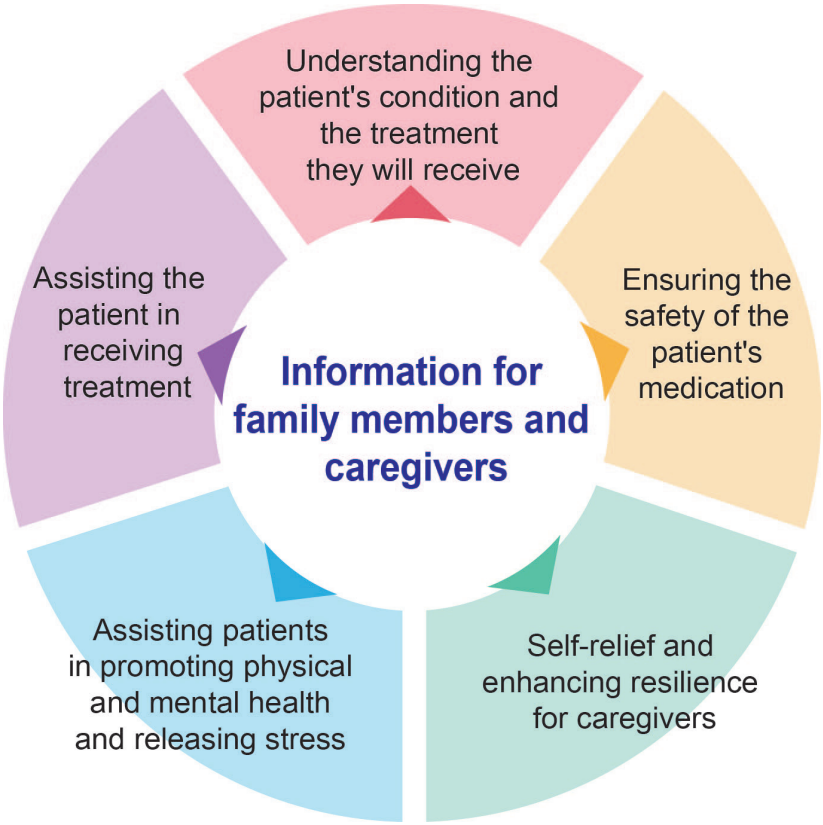


Figure 2. Information for family members and caregivers

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛成癮性麻醉藥品使用指引暨管理注意事項。衛生福利部。2018。https://www.fda.gov.tw/TC/lawContent.aspx?cid=183&pn=2&id=3084
2. 衛生福利部食品藥物管理署。末期病人居家治療使用成癮性麻醉藥品管理注意事項。衛生福利部。2020。https://www.fda.gov.tw/TC/lawContent.aspx?cid=183&id=3300
3. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。https://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
4. World Health Organization(WHO). WHO Guidelines on the Pharmacological Treatment of Persisting Pain in Children with Medical Illnesses. 2012 https://www.apsoc.org.au/PDF/SIG-Pain_in_Childhood/WHO_Guidelines.pdf
5. 台灣疼痛醫學會、台灣癌症安寧緩和醫學會。癌症疼痛之藥物治療指引 第七版 2018 https://www.wecare.org.tw/wp-content/uploads/2018/11/Cancer-Pain_%E7%B7%9A%E4%B8%8A%E7%89%88%E5%85%A8%E4%B8%8D%E5%8F%AF%E8%A4%87%E8%A3%BD1115.pdf
6. National Cancer Institute (NIH). Cancer Pain (PDQ®)–Patient Version. https://www.cancer.gov/about-cancer/treatment/side-effects/pain/pain-pdq
7. Imperial College Healthcare NHS Trust. Controlling Your Pain with Opioids: Information for Patients, Relatives and Carers. 2018. https://www.imperial.nhs.uk/-/media/website/patient-information-leaflets/pain-management/controlling-your-pain-with-opioids.pdf?rev=6c770c7a0d564af4b4f24f68288b

72fb

8. National Cancer Institute (NIH). Cancer Pain Control: Support for People With Cancer. 2019. https://www.cancer.gov/publications/patient-education/paincontrol.pdf
9. American Society of Clinical Oncology (ASCO). Managing Cancer-Related Pain. 2020. https://www.cancer.net/sites/cancer.net/files/managing_pain_booklet.pdf
10. European Society for Medical Oncology (ESMO). Cancer Pain: An ESMO Guide for Patients. 2019. https://www.esmo.org/content/download/211169/3738827/1/EN-Cancer-Pain-Management-Guide-for-Patients.pdf
11. National Comprehensive Cancer Network (NCCN). Survivorship Care for Cancer-Related Late and Long-Term Effects. 2020. https://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf

Chapter 2

Causes of Cancer Pain

1. Introduction

1.1. The International Association for the Study of Pain defines pain as an unpleasant sensory and emotional experience, usually caused by actual or potential tissue damage.

1.2. Cancer pain is defined as pain caused by cancer. Different types of cancer may have different causes and manifestations of pain.

2. Causes of cancer pain

2.1. Pain caused by tumor invasion: When a tumor invades bone, nerves, organs, or soft tissues, it can cause acute (short-term) or chronic (long-term) inflammation or muscle tissue contraction, resulting in pain.

2.2. Pain caused by cancer examinations or treatments: such as punctures, surgeries, chemotherapy, radiation therapy, immunocellular therapy, hormone therapy, etc.

2.3. Pain caused by unidentified factors: This type of pain is usually caused by early invasion of tumors in certain parts of the body, resulting in damage to body tissues (including organs) and causing pain.

3. Classification of cancer pain

3.1. Based on the duration of pain:

(1) Acute pain (short-term pain): Pain lasting less than three months.

(2) Chronic pain (long-term pain): Pain lasting three months or more.

3.2. Based on the injured tissue:

(1) Tissue injury pain (nociceptive pain) : Pain caused by non-neural tissue damage.

(2) Neuropathic pain: Pain caused by compression or damage to neural tissue.

(3) Mixed pain: Pain caused by mixed origins, including the above causes.

3.3. Breakthrough pain:

Refers to sudden and transient pain. This type of pain can be classified as spontaneous or induced. Spontaneous pain is caused by unknown reasons, while induced pain is caused by identifiable reasons.

4. Common acute (short-term) pain related to cancer

4.1. Pain caused by tumor invasion of tissues

(1) Rupture of liver tumors: Caused by the growth and enlargement of tumors in the liver, leading to liver rupture.

(2) Obstruction or perforation of the intestines, bile ducts, or urinary tract: Caused by tumor invasion of these areas.

(3) Pathological fractures: Fractures caused by tumor invasion of bones.

4.2. Pain derived from weakened immune system

Herpes or shingles pain: Caused by the proliferation of herpes viruses in the body due to weakened immune system, leading to invasion and destruction of tissues (mostly skin, oral mucosa, and the distributed neural tissue), resulting in pain.

4.3. Pain caused by venous thrombosis

Commonly occurs in large and small veins within the abdominal cavity, as tumor cells adhere to the vein wall and grow, causing complete or partial obstruction of the vein, leading to ischemic necrosis of visceral tissues and resulting in pain.

Note: Tumor cells can also spread to tissues through the arteries, causing tissue destruction and pain.

5. Common acute pain related to cancer examinations or treatments

5.1. Pain caused by necessary puncture biopsies

(1) Lumbar puncture.

(2) Endoscopic examination and tissue biopsy.

(3) Endometrial biopsy.

(4) Transrectal prostate puncture biopsy.

(5) Percutaneous tissue puncture biopsy.

(6) Bone marrow puncture biopsy.

5.2. Pain caused by tumor treatment procedure

(1) Chest tube insertion.

(2) Abdominal puncture.

(3) Arterial or venous embolization: Embolization performed on certain tumors, such as liver tumors.

(4) Percutaneous bladder puncture catheterization in the lower abdomen.

5.3. Pain caused by pain management techniques

(1) Local injection of pain medication or nerve block procedures.

(2) Spinal canal injection of pain medication in the lumbar region.

5.4. Pain caused by tissue damage from chemotherapy drugs

(1) In some cases, when chemotherapy drugs are administered intravenously in high concentrations to treat tumors, it can cause inflammation and pain in the perfused tissues.

(2) When medication administered through intravenous injection accidentally extravasates, it often causes pain in the extravasation site tissues.

5.5. Pain caused by chemotherapy (systemic side effects)

(1) Headache.

(2) Oral mucositis.

(3) Peripheral neuropathic pain: Nerve tissue damage caused by chemotherapy drugs.

(4) Joint and muscle soreness.

(5) Hand-foot syndrome: Redness and abnormal sensation in the hands and feet.

(6) Diffuse bone pain.

(7) Steroid-induced burning pain in the perineum.

5.6. Pain caused by radiation therapy in the irradiated area

(1) Mucositis of the mouth and throat.

(2) Brachial plexopathy.

(3) Enteritis or proctitis.

(4) Myelitis.

6. Common chronic pain (long-term) related to tumor invasion

6.1. Pain caused by tumor invasion in the body's axial skeleton

(1) Bone pain: Marrow expansion, bone loss, osteomalacia, fractures.

(2) Spinal bone pain: Cervical, thoracic, lumbar, and sacral vertebrae.

(3) Pelvic and hip pain: Pelvis, hip joint.

(4) Skull pain: Orbit, cervical canal, ethmoid sinus, jugular fossa.

6.2. Pain caused by tumor invasion in soft tissue sites

(1) Headache and facial pain.

(2) Eye and ear pain.

(3) Pleural pain (pain in the chest when taking deep breaths).

6.3. Pain caused by tumor invasion in visceral organs

(1) Pain from liver enlargement.

(2) Posterior abdominal pain.

(3) Intestinal obstruction pain.

(4) Abdominal pain.

(5) Perineal pain.

(6) Urethral obstruction pain.

6.4. Pain caused by nerve compression or damage by tumors

(1) Cranial nerve neuropathic pain: Glossopharyngeal nerve, trigeminal nerve (in the facial area).

(2) Spinal nerve root neuropathic pain.

(3) Plexopathy neuropathic pain: Cervical plexus, brachial plexus, lumbosacral plexus.

7. Common chronic pain related to cancer treatment

7.1. Pain caused by surgical treatment

(1) Lymphedema (upper or lower limbs).

(2) Post-amputation neuropathic pain: A small number of patients may experience neuropathic pain due to simultaneous removal of nerves after surgery (about six months later).

(3) Pain after breast removal.

(4) Pain after neck dissection surgery.

(5) Pain after pelvic surgery.

(6) Shoulder pain and stiffness after thoracic surgery (shoulder joint pain).

7.2. Pain caused by chemotherapy

(1) Ischemic bone necrosis.

(2) Peripheral neuropathic pain.

(3) Bone complications caused by long-term steroid therapy (such as osteoporosis and fractures).

7.3. Pain caused by radiation therapy (within the irradiation range)

(1) Cystitis.

(2) Enteritis, proctitis.

(3) Fistula formation.

(4) Lymphedema.

(5) Spinal cord lesions.

(6) Bone necrosis, fractures.

(7) Plexopathy.

(8) Peripheral neuropathic pain.

7.4. Pain caused by hormone therapy

(1) Joint pain.

(2) Muscle soreness.

(3) Compression fractures.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。
http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. National Cancer Institute (NIH). Cancer Pain (PDQ®)–Patient Version.
https://www.cancer.gov/about-cancer/treatment/side-effects/pain/pain-pdq
3. Cancer Council. Understanding Cancer Pain. 2021.
https://www.cancer.org.au/assets/pdf/understanding-cancer-pain-booklet
4. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Adult Cancer Pain (Version 2.2021).
https://www.nccn.org/guidelines/guidelines-detail?category=3&id=1413

Chapter 3

Assessment of Cancer Pain

1. Introduction

1.1. The causes of cancer pain are generally as follows:

(1) Caused by tumor invasion.

(2) Caused by cancer examination or treatment.

(3) Caused by unidentified factors.

1.2. Scince cancer and its pain simultaneously affect a person's physical and psychological (mood) status, and social support , a multidimensional assessment should be conducted when evaluating pain.

1.3. This chapter will introduce the aspects that healthcare professionals often consider when assessing pain.

2. Aspects of cancer pain assessment

Assessment for cancer pain is often approached from the following aspects (Figure 1):

2.1. Assessment of pain characteristics.

2.2. Assessment of the patient's past medical history and current condition.

2.3. Assessment of the patient's life functions.

2.4. Assessment of patient's psychological and interpersonal (social) support.

2.5. Assessment of pain in certain special populations.

2.6. Determine if there are any urgent conditions that require immediate attention.

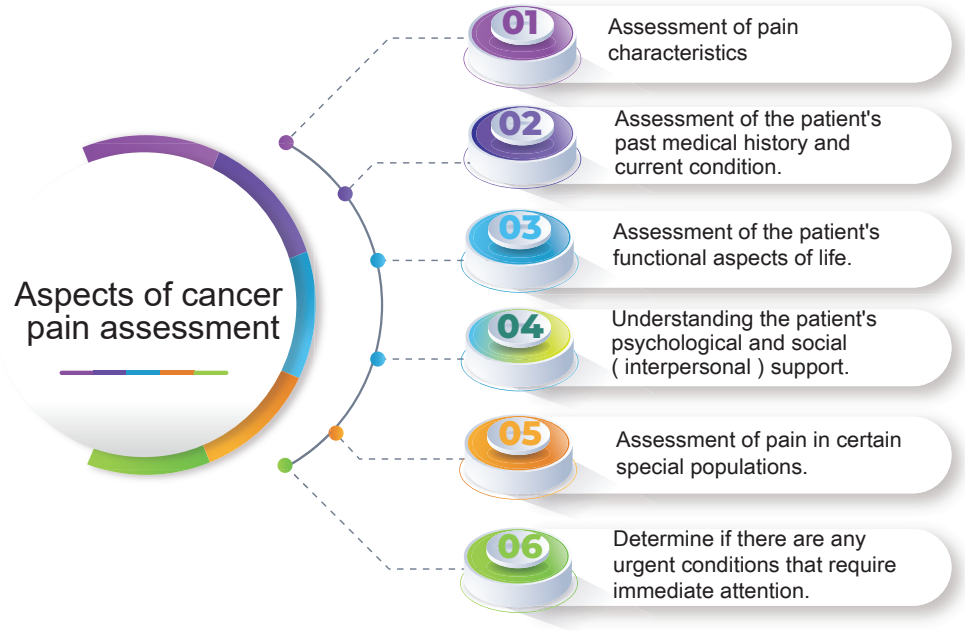


Figure 1. Aspects of cancer pain assessment

3. Assessment of pain characteristics

Hereby use the English letters OPQRST to explain one by one

Items	illustrate
Onset of pain	When did the pain start? How long does each episode last? How often?
Factors provoking or relieving pain (Provoking / Palliating)	What factors trigger it? What factors mitigate it? What factors make it worse?
Quality of pain	What does pain feel like? Such as sharp pain, dull pain , needle prick pain, burning pain, crush pain, etc.?
The area of pain and its range of radiation (Region / Radiation)	Where it hurts? How far does it spread to other areas?
Pain Severity	Commonly used assessment scales are as follows: (一) Numerical scale (Figure 2): rate the severity of pain into 0-10, and 0 represents no pain, 10 represents unbearable pain, and let the patient tell the pain score. (二) Selected other scales according to the patient's condition: such as the multidimensional pain assessment form, the pain scale for abnormal cognitive function, the pain scale for patients using ventilators, and the pain scale for children.
Previous Treatment experience	What pain treatments has the patient received in the past? Such as Chinese herbal medicine, folk therapy? Massage, acupuncture, medication or other treatments, etc.? How was the effect? What about side effects?

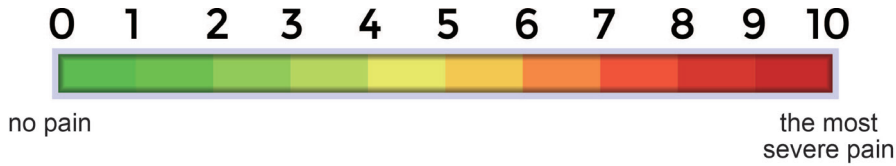


Figure 2. Assessment of pain severity (numerical scale, with 10 points)

Note: The items (time) to be evaluated can include: at rest, during activity, the most painful time, the least painful time, after taking medicine, and after treatment; or assess to total average within a day.

4. Assessment of the patient's past medical history and current condition

4.1. Understand the patient's past and current medical history, including cancer and non-cancer related illnesses.

4.2. Understand the patient's past and current medication history, including side effects and their management.

4.3. Understand the results of physical examinations (including examinations from various departments within the hospital).

4.4. Understand the results of imaging examinations (such as X-rays, CT scans, and MRI scans).

4.5. Understand the results of laboratory examinations (such as blood tests, urine tests, and tissue sampling).

5. Assessment of the patient's life functions

Common assessment contents include the following (Figure 3):

5.1. Assessment of activities of daily living(ADL): Can refer to the use of numerical scales (0-10 points) to assess activities such as bathing, dressing, toileting, moving, and eating.

5.2. Assessment of activities of daily living impairment level: Can refer to the use of numerical scales (0-10 points) to assess activities such as doing housework, school, work, social activities, leisure and entertainment, sexual function, exercise, sleep, and emotions.

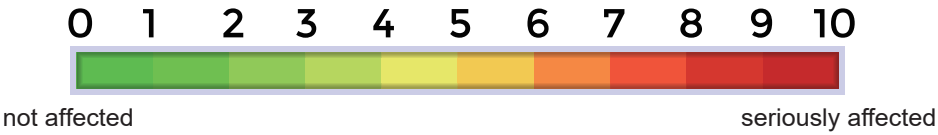


Figure 3. The extent to which activities of daily living is affected by pain (numerical scale, with 10 points)

6. Understand the patient's psychological and social (interpersonal) support

6.1. Understand the stress, anxiety, and depression that the patient is experiencing: Including their understanding of the disease, medication, and its side effects, as well as emotional changes, anxiety, and depression caused by lifestyle changes.

6.2. Understand the patient's social (interpersonal) support: Including support from family, friends, interpersonal relationships, financial resources, and social resources.

7. Assessment of pain in certain special populations

7.1. For newborns, infants, and preschool children, there are special pain assessment scales in hospitals (mostly based on facial expressions and behavioral actions).

7.2. For patients with severe cognitive impairments, delirium, or memory loss, or patients in critical condition (admitted to the intensive care unit), there are also special pain assessment scales in hospitals.

8. Determine if there are any urgent conditions that require immediate attention

This usually needs to be examined and determined by a doctor. While assessing pain, also pay attention to the following urgent conditions (Figure 4):

8.1. Cancer metastasis to the brain or meninges.

8.2. Cancer metastasis to the spinal cord or epidural space.

8.3. Intestinal obstruction or perforation.

8.4. Major skeletal fractures or impending fractures.

8.5. Infections, abscesses, or sepsis.

8.6. Acute heart or lung failure.

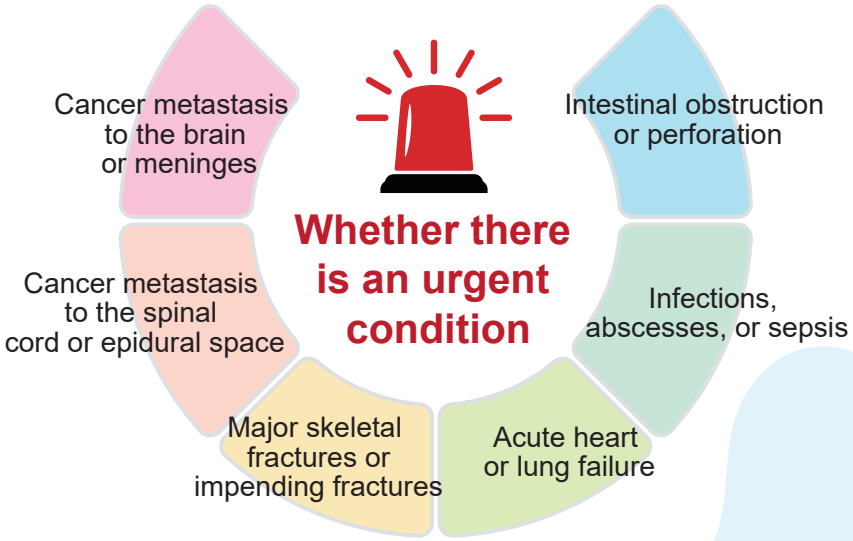


Figure 4. Whether there is an urgent condition

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛成癮性麻醉藥品使用指引暨管理注意事項。衛生福利部。2018。https://www.fda.gov.tw/TC/lawContent.aspx?cid=183&pn=2&id=3084
2. 衛生福利部食品藥物管理署。末期病人居家治療使用成癮性麻醉藥品管理注意事項。衛生福利部。2020。https://www.fda.gov.tw/TC/lawContent.aspx?cid=183&id=3300
3. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
4. National Cancer Institute (NIH). Cancer Pain Control: Support for People With Cancer. 2019. https://www.cancer.gov/publications/patient-education/paincontrol.pdf
5. National Cancer Institute (NIH). Cancer Pain (PDQ®)–Patient Version. https://www.cancer.gov/about-cancer/treatment/side-effects/pain/pain-pdq
6. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Adult Cancer Pain (Version 2.2021). https://www.nccn.org/guidelines/guidelines-detail?category=3&id=1413

Chapter 4

Goals and Strategies for Cancer Pain Care

1. Introduction

1.1. When cancer pain occurs, it brings not only problems related to cancer itself, but also the various impacts caused by pain associated with cancer, including physical, psychological, and social influences, and even spiritual impacts. The approach to cancer pain care is based on addressing the corresponding aspects of these impacts.

1.2. This chapter will introduce the goals and strategies commonly set by healthcare professionals for cancer pain care.

2. Goals for cancer pain care

2.1. Overall goal: Alleviate pain, restore physical function and improve quality of life.

2.2. Sub-goals:

(1) Alleviate physical pain and restore physical function.

(2) Maintain good emotions and improve quality of life.

(3) Strengthen social support (family, friends, community) .

3. Strategies for cancer pain care

3.1. Alleviate physical pain and moderately restore physical function: Coordinate with the hospital to arrange necessary examinations (tests) for cancer and its pain causes, make accurate diagnoses, provide appropriate treatments (including various tumor treatments and pain management), and aim for moderate restoration of functional abilities in daily life.

3.2. Maintain good emotional well-being and improve quality of life: Emotions can affect pain, and pain can also affect emotions. Therefore, maintaining good emotional well-being is crucial in cancer pain treatment. In the treatment process, patients and their caregivers should be informed about the causes of cancer and its pain, treatment methods, etc., and their psychological resilience should be strengthened to face cancer and its pain, with the aim of obtaining positive emotions, inner peace, and enhancing quality of life.

3.3. Strengthen social support: Throughout the entire process of illness, the support and greetings from family and friends contribute to the improvement of the patient's condition. When necessary, seeking assistance from social resources is also recommended.

Note: The strategies mentioned above require active patient participation, self-motivation, and the setting of expectations (goals) regarding one's own physical condition and the level of recovery in order to be effective.

4. Relieve body pain and restore body function

There are several methods for body pain care:

4.1. Actively cooperate and participate in the tumor treatments provided by the hospital (this is the most important point): Including medication treatment, surgical treatment, chemotherapy, radiation therapy, and other tumor treatments (please refer to Chapter 5).

4.2. Properly handle the pain and anxiety caused by examinations and procedures:

During cancer examinations and procedures, pain and anxiety often occur. The following principles should be followed for proper management:

(1) Before undergoing examinations and procedures, patients, family members, and caregivers should receive appropriate explanations and communication.

(2) Examinations and procedures should be conducted in an appropriate and quiet environment.

(3) Analgesics or sedatives can be given in advance to prevent the occurrence of pain or anxiety.

4.3. Use of pain medications : The use of pain relievers includes various types of analgesics, local anesthetics, and other medications.

4.4. Use of nerve block techniques: These techniques include temporary nerve blocks, permanent nerve severance, neurolysis, or other procedures.

4.5. Exercise and rehabilitation therapy: Exercise and rehabilitation therapy can restore body flexibility, muscle strength, endurance, joint range of motion, and mobilize affected tissues, thereby reducing body pain. Common types of exercise and rehabilitation therapy include exercise therapy, hydrotherapy, modality therapy, manual therapy, traction therapy, and assistive device therapy.

4.6. Other treatments: Including complementary therapy, alternative medicine, and integrative medicine treatments such as massage, acupuncture, traditional Chinese medicine, and nutritional therapy.

4.7. Self-health promotion: Patients can choose appropriate daily activities (exercises) and engage in self-training according to their physical condition.

4.8. Self-care and medical care for coexisting conditions: Such as hypertension, diabetes, heart disease, lung disease, infection, etc.

5. Maintain good emotions and improve quality of life

The following methods can be used:

5.1. Reduce psychological stress.

5.2. Maintain good sleep quality.

5.3. Balance work and rest.

5.4. Maintain a balanced and healthy diet.

5.5. Release stress and enhance stress resistance.

5.6. Maintain a positive mindset.

5.7. Skillfully use reframing.

5.8. Engage in art and music.

5.9. Nourish the soul (spiritual support).

6. Strengthen social support

The support of family and friends can be of great help in the treatment of cancer and cancer pain. When appropriate, through explanations from medical personnel, let family and friends understand the impact of cancer and cancer pain and their care models, and support and assist patients. If necessary, seek assistance from social resources.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛成癮性麻醉藥品使用指引暨管理注意事項。衛生福利部。2018。https://www.fda.gov.tw/TC/lawContent.aspx?cid=183&pn=2&id=3084
2. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
3. World Health Organization(WHO). WHO Guidelines on the Pharmacological Treatment of Persisting Pain in Children with Medical Illnesses. 2012 https://www.apsoc.org.au/PDF/SIG-Pain_in_Childhood/WHO_Guidelines.pdf
4. 台灣疼痛醫學會、台灣癌症安寧緩和醫學會。癌症疼痛之藥物治療指引 第七版 2018 https://www.wecare.org.tw/wp-content/uploads/2018/11/Cancer-Pain_%E7%B7%9A%E4%B8%8A%E7%89%88%E5%85%A8%E4%B8%8D%E5%8F%AF%E8%A4%87%E8%A3%BD1115.pdf
5. National Cancer Institute (NIH). Cancer Pain (PDQ®)–Patient Version. https://www.cancer.gov/about-cancer/treatment/side-effects/pain/pain-pdq
6. National Comprehensive Cancer Network (NCCN). Survivorship Care for Cancer-Related Late and Long-Term Effects. 2020. https://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf

7. European Society for Medical Oncology (ESMO). Cancer Pain: An ESMO Guide for Patients. 2019. https://www.esmo.org/content/download/211169/3738827/1/EN-Cancer-Pain-Management-Guide-for-Patients.pdf

8. American Society of Clinical Oncology (ASCO). Managing Cancer-Related Pain. 2020. https://www.cancer.net/sites/cancer.net/files/managing_pain_booklet.pdf

9. National Cancer Institute (NIH). Cancer Pain Control: Support for People With Cancer. 2019. https://www.cancer.gov/publications/patient-education/paincontrol.pdf

10. Imperial College Healthcare NHS Trust. Controlling Your Pain with Opioids: Information for Patients, Relatives and Carers. 2018. https://www.imperial.nhs.uk/-/media/website/patient-information-leaflets/pain-management/controlling-your-pain-with-opioids.pdf?rev=6c770c7a0d564af4b4f24f68288b72fb

Chapte 5

Tumor Treatment for Cancer Pain Care

1. Introduction

1.1. For cancer pain, the commonly used pain relief methods are as follows:

(1) Tumor treatment.

(2) Nerve block.

(3) Rehabilitation therapy.

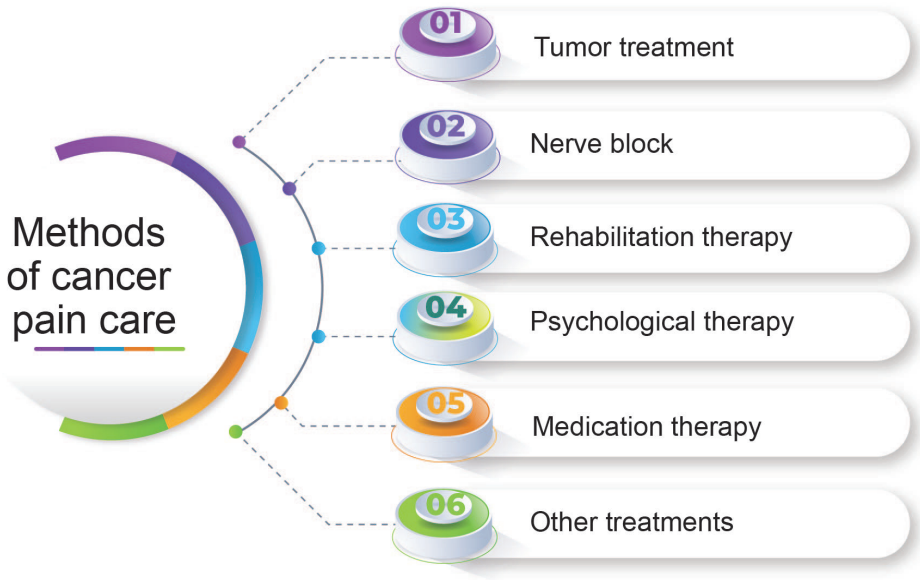
(4) Psychological therapy.

(5) Pain medication therapy.

(6) Other treatments.

1.2. Most cancer pain is caused by tumor invasion of body tissues and organs, therefore directly treating the tumor is often the first priority.

1.3. The focus of this chapter is to alleviate cancer pain (referred to as pain hereafter) using tumor treatment methods.



2. Common pain caused by tumor invasion

2.1. Headaches

(1) Headaches can be caused by the growth and expansion of primary brain tumors or the metastasis of other tumors to the brain, leading to increased intracranial pressure.

(2) Headaches can also be caused by brain tumors blocking the brain's aqueductal system, resulting in increased intracranial pressure.

2.2. Bone pain

(1) When the skeletal system is invaded by tumors, whether primary or metastatic, it can cause pain.

(2) When tumors invade the bones of the limbs, they can destroy the existing bone structure and cause pain.

(3) If the tumors spread to the spinal bones, they may compress the spinal nerves and cause neuropathic pain.

(4) Pathological fractures and pain can occur in the skeletal system.

2.3. Chest pain

(1) Common causes include the spread of lung tumors within the chest (can be primary or metastatic).

(2) When tumor cells cause damage to intercostal nerves, it can result in neuropathic pain in the intercostal nerves.

2.4. Abdominal and pelvic pain

(1) Tumor invasion of the liver can cause liver enlargement and pain, or invasion of the intestines can cause intestinal obstruction and pain.

(2) When the nerve plexus in the pelvic cavity is invaded or compressed by tumors, it can also result in neuropathic pain in the abdominal nerve plexus.

(3) Enlarged spleen (due to cancer cell invasion) can also cause abdominal pain, commonly seen in lymphoma or leukemia.

(4) When pancreatic cancer spreads within the abdominal cavity, it often causes abdominal and lower back pain.

3. Common tumor treatment methods

These methods are usually used for the treatment of tumors and can also address cancer pain.

3.1. Surgical treatment

When a tumor compresses tissue and causes pain, if it can be completely removed, a complete tumor resection is generally performed. However, if the tumor cannot be completely removed, partial resection can be considered to temporarily relieve functional loss and pain caused by the tumor. The appropriate timing for surgical treatment is as follows:

(1) When a brain tumor causes blockage of the brain's water drainage system, hydrocephalus, increased intracranial pressure, and headaches, brain tumor removal surgery and placement of a drainage tube can be performed to improve the rising intracranial pressure and relieve pain.

(2) When pathological fractures and pain occur in the spinal bone (commonly known as vertebrae), emergency spinal surgery (including external fixation of the spinal bone) can be performed to relieve the crisis of spinal cord compression and pain.

(3) When there are pathological fractures and pain in the bones of the limbs, external fixation surgery can be performed to restore limb function and relieve pain.

(4) When there is an esophageal tumor causing difficulty in eating and pain, an esophageal stent can be placed to temporarily relieve symptoms, or esophageal resection and bypass surgery can be performed to relieve pain.

(5) When a tumor spreads and metastasizes within the abdominal cavity, causing ascites and abdominal distension pain, abdominal drainage can be performed to temporarily relieve symptoms and pain, but at this time, whether this treatment is necessary must also be considered.

3.2. Radiation therapy

Radiation therapy uses high-energy radiation to irradiate local tissues to destroy the cells in the irradiated area. Tumor cells are more susceptible to injury because they grow and divide faster. The appropriate timing for radiation therapy is as follows:

(1) When primary brain tumors or metastatic brain tumors cause brain dysfunction and headaches.

(2) When tumors have bone metastasis causing pathological fractures and pain.

(3) When tumors in the chest cavity cause respiratory and cardiovascular system abnormalities and pain.

(4) When tumors in the pelvic cavity cause pelvic organ dysfunction and pain.

(5) When tumors grow and compress major blood vessels (emergency radiation therapy is recommended in this case).

3.3. Chemotherapy

Chemotherapy (including targeted therapy) uses chemical drugs to interfere with the replication and division of cells by entering various cells in the body through the bloodstream. Tumor cells are more susceptible to injury because they grow and divide faster. Targeted therapy is more specific in killing tumors (less damage to normal tissue cells), but its applicability to tumor types is still limited. The appropriate timing for chemotherapy is as follows:

(1) When breast cancer, colorectal cancer, and multiple myeloma cause bone metastasis and pain.

(2) When lung cancer, breast cancer, and colorectal cancer metastasize to the lungs and cause cardiopulmonary dysfunction and pain.

(3) When colorectal cancer, ovarian cancer, and cervical cancer invade intra-abdominal tissues causing abdominal organ dysfunction and lower abdominal pain.

(4) When germ cell tumors, lymphomas, leukemia, breast cancer, and lung cancer metastasize to the brain causing brain dysfunction and headaches.

(5) When ovarian cancer, colorectal cancer, gastric cancer, and pancreatic cancer metastasize or obstruct the gastrointestinal tract causing abdominal pain.

3.4. Immunotherapy

Immunotherapy (including immunotherapy and cell therapy) involves injecting (introducing) one's own cells (autologous cells) or other people's cells (allogeneic cells) into the patient's body after in vitro cultivation or processing procedures to achieve therapeutic or preventive purposes. Because this type of therapy is currently rapidly developing, its indications are also being developed continuously. It is known to be applicable to liver cancer, hematological malignancies, melanoma, lung cancer, urothelial carcinoma, head and neck cancer, and others.

3.5. Hormone therapy

Hormone therapy uses certain hormones that some tumor cells are sensitive to. When treated with these hormones, the purpose of inhibiting tumor cell proliferation and growth can be achieved. The appropriate timing for hormone therapy is as follows:

(1) When breast cancer metastasizes and causes pain, anti-female hormone drugs can be used for treatment and pain relief.

(2) When prostate cancer metastasizes and causes pain, anti-male hormone drugs can be used for treatment and pain relief.

4. Common side effects of tumor treatment

4.1. Surgical treatment:

Different surgical sites and methods have their own specific side effects.

4.2. Radiation therapy:

Different types and doses of radiation can cause different side effects depending on the site of radiation. For more information, consult your doctor.

4.3. Chemotherapy (including targeted therapy):

Common side effects include nausea/vomiting, suppression of bone marrow function, oral mucosal damage, diarrhea, hair loss, fatigue, peripheral neuropathy, etc., and the severity is related to the chemotherapy drugs used and their cumulative dose.

4.4. Immunotherapy:

Side effects vary depending on the type of cell therapy, but generally include skin rash, gastrointestinal inflammation, diarrhea, lung inflammation, abnormal liver function, and abnormal endocrine system function.

4.5. Hormone therapy:

(1) Male patients: Decreased libido, erectile dysfunction, hot flashes, bone loss, increased risk of fractures, dizziness, fatigue, weight gain, nausea, diarrhea.

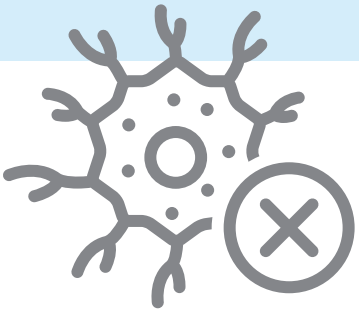
(2) Female patients: Vaginal dryness, changes in menstrual cycle, hot flashes, decreased libido, nausea, fatigue, muscle and joint pain, bone loss, increased risk of fractures, increased risk of other cancers, stroke, cataracts, risk of heart disease.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。
http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. National Cancer Institute (NIH). Cancer Pain (PDQ®)–Patient Version.
https://www.cancer.gov/about-cancer/treatment/side-effects/pain/pain-pdq
3. National Cancer Institute (NIH). Cancer Pain Control: Support for People With Cancer. 2019.
https://www.cancer.gov/publications/patient-education/paincontrol.pdf
4. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Adult Cancer Pain (Version 2.2021).
https://www.nccn.org/guidelines/guidelines-detail?category=3&id=1413
5. American Society of Clinical Oncology (ASCO). Managing Cancer-Related Pain. 2020.
https://www.cancer.net/sites/cancer.net/files/managing_pain_booklet.pdf

Chapter 6

Nerve Block



1. Introduction

1.1. When tumors invade body tissues and cause acute or chronic inflammation, ischemic obstruction, rupture, or tissue compression, the sensory nerves of the body transmit the sensation of pain to the brain, causing people to feel pain.

1.2. There are many methods to weaken or block the sensation of pain. In addition to direct treatment of the tumor, nerve block is also a feasible method.

1.3. Nerve block can be temporary or permanent. Temporary nerve block is also known as non-destructive nerve block, while permanent nerve block is known as destructive nerve block.

2. Principles of nerve block

2.1. Temporary (non-destructive) nerve block:

(1) Generally, local anesthetics are used for nerve block, and nerve function recovers immediately after the effect of the medication wears off.

(2) This type of block is commonly used for short-term pain relief or as a means of identifying the cause of pain.

2.2.Permanent (destructive) nerve blockade:

(1) Common methods include surgery, cryotherapy, radiofrequency thermocoagulation, or injection of medications to destroy the nerves (such as high-concentration saline, glycerol, phenol, or alcohol).

(2) All peripheral nerve destruction procedures will cause nerve degeneration. However, nerves may still regenerate (or may not be completely destroyed), which takes approximately 6 months. At that time, pain may reappear or there may be abnormal sensations due to disordered nerve growth.

3. Commonly used nerve block techniques

3.1. Non-destructive nerve block:

3.1.Non-destructive nerve block

(1) Ganglion block: Local anesthetics can be used for continuous use for several days, but catheter placement is required. When the catheter is placed for a long period of time, attention should be paid to catheter displacement and the risk of infection.

(2) Epidural administration: Opioid-like drugs and local anesthetics can be used. Catheter placement in the epidural space is often necessary, and a continuous infusion device may also be required. When the catheter is placed for an extended period of time (several weeks or more), attention should be paid to catheter displacement and the risk of infection.

(3) Intrathecal administration: Opioid-like drugs and local anesthetics can be used; catheter placement may be necessary. If continuous infusion is required, a more

expensive continuous infusion device may need to be placed, and the placement process requires the expertise of medical professionals.

3.2. Destructive nerve block: Only suitable for end-stage cancer patients with clear pain areas.

(1) Cervical and head pain syndrome: Peripheral nerve root destruction can be used, but it often results in the destruction of both motor and sensory nerves, causing motor dysfunction in the head and neck.

(2) Shoulder pain: Suprascapular nerve destruction.

(3) Upper limb pain syndrome: Brachial plexus block.

(4) Chest wall pain: Chest wall nerve destruction, which can be performed through the epidural space, spinal canal, intercostal space, or spinal dorsal root ganglion.

(5) Upper abdominal visceral pain: Methods can include celiac plexus block and thoracic plexus block.

(6) Pelvic pain: Celiac plexus block can be used.

(7) Rectal/perineal pain: Peripheral nerve root neurolysis or hypogastric nerve plexus block can be used.

4. Possible side effects of nerve block

Temporary or permanent nerve block, or nerve block surgery may potentially produce the following side effects:

4.1. Local or regional numbness of the skin.

4.2. Patchy skin abnormalities in the affected area; within the area where the nerves are block or damaged, there may be patches of pain and numbness.

4.3. Autonomic nerve dysfunction.

4.4. Motor nerve dysfunction.

4.5. Unpleasant abnormal sensations in the localized skin.

4.6. Postural hypotension.

4.7. Neuralgia or neuropathic pain.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. Kurita GP, Sjøgren P, Klepstad P, Mercadante S. Interventional Techniques to Management of Cancer-Related Pain: Clinical and Critical Aspects. Cancers (Basel). 2019;11(4):443.
3. Allano G, George B, Minello C, Burnod A, Maindet C, Lemaire A. Strategies for Interventional Therapies in Cancer-Related Pain-A Crossroad in Cancer Pain Management. Support Care Cancer. 2019;27(8):3133-3145.
4. Bhaskar A. Interventional Pain Management in Patients with Cancer-Related Pain. Postgrad Med. 2020;132(sup3):13-16.
5. Coelho A, Parola V, Cardoso D, Bravo ME, Apóstolo J. Use of Non-Pharmacological Interventions for Comforting Patients in Palliative Care: A Scoping Review. JBI Database System Rev Implement Rep. 2017;15(7):1867-1904.
6. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Adult Cancer Pain (Version 2.2021). https://www.nccn.org/guidelines/guidelines-detail?category=3&id=1413

Chapte 7

Rehabilitation Treatment

1. Introduction

1.1. When cancer pain occurs, patients often refuse to move or exercise due to the pain. Over time, this can cause muscle atrophy, spasms, and joint stiffness in various parts of the body, leading to weakened and lost functionality in the affected area. However, the pain does not disappear.

1.2. Rehabilitation treatment for cancer pain mainly includes physical therapy and occupational therapy.

1.3. Rehabilitation treatment can restore flexibility, muscle strength, endurance, and joint range of motion in the body, and activate the functionality of the affected area, thereby reducing bodily pain.

2. Goals of rehabilitation treatment

2.1. The main goal is to improve limb functionality and alleviate pain.

2.2. For certain cancer patients, the goal of rehabilitation treatment is only to achieve certain predetermined items, but are not required to complete restoration of limb functionality to avoid causing harm to the limbs.

2.3. Rehabilitation treatment for cancer pain adopts a patient-centered approach, involving the participation of family members and caregivers in discussions and setting achievable goals.

3.Assessment and planning for rehabilitation treatment

3.1. Assessment and planning in physical therapy

(1) First assess the limb functionality affected by the disease, such as joint range of motion, muscle strength, and correct posture.

(2) Design rehabilitation exercises that can gradually improve the patient's original limb functionality.

(3) Utilize methods such as sound, electricity, water, cold, heat, force, and light for treatment to improve the patient's original limb functionality.

(4) Treatment includes limb functionality training, exercise therapy, instrument therapy, manual therapy, and technology-assisted therapy.

3.2. Assessment and planning in occupational therapy

(1) First assess the life or work functionality lost by the patient due to the disease.

(2) Design rehabilitation exercises that can gradually improve the patient's original life and work functionality.

(3) Arrange rehabilitation activities related to treatment by analyzing the physical activities required for daily life, play, games, and leisure, gradually allowing the patient to recover or maintain their original life and work abilities.

(4) Treatment content includes therapeutic activities, technology-assisted devices, and environmental modifications (accessible environment), etc.

4. Individual treatment items

4.1. Correction of poor posture

(1) Applicable to patients who change their correct posture or movements due to pain.

(2) Abnormal posture should be corrected in the early stage of rehabilitation to avoid other compensatory functional impairments.

4.2. Massage and soft tissue relaxation

(1) Includes scar relaxation (massage), myofascial and connective tissue massage.

(2) Care should be taken to avoid injury to peripheral nerves.

4.3. Lymphatic therapy

(1) In the treatment of the head and neck, it includes lymphatic drainage massage, local pressure therapy, facial, and neck exercises.

(2) In the treatment of limbs, it includes lymphatic drainage massage, intermittent pneumatic pressure therapy, compression bandaging and elastic compression garment use, complete lymphedema treatment, taping or exercise therapy (including water exercises).

4.4. Use of aids and other equipment

(1) For patients with advanced diseases (including cancer), the use of aids in certain situations (as determined by a physician) can reduce pain and improve limb function.

(2) Wearing appropriate prosthetics can alleviate phantom limb pain, using walking aids can reduce walking pain, and using assistive dining/bathing aids or equipment can improve daily functioning.

4.5. Other pain treatment methods

(1) Transcutaneous electrical nerve stimulation(TENS).

(2) Heat therapy and cold therapy.

4.6. Adjustment of lifestyle

(1) Adjusting the rhythm of life, prioritization, physical management, simplifying work, time management, and appropriate assistive devices can reduce pain and promote independence in daily life.

(2) Using a progressive approach to rehabilitation exercises can allow patients to engage in rehabilitation exercises within their own abilities and tolerance range, and can also increase the success rate of rehabilitation.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. De Groef A, Penen F, Dams L, Van der Gucht E, Nijs J, Meeus M. Best-Evidence Rehabilitation for Chronic Pain. Part 2: Pain During and After Cancer Treatment. J Clin Med. 2019;8(7):979.
3. Stubblefield MD. The Underutilization of Rehabilitation to Treat Physical Impairments in Breast Cancer Survivors. PM R. 2017;9(9S2):S317-S323.
4. Rodriguez AM, Komar A, Ringash J, Chan C, Davis AM, Jones J, Martino R, McEwen S. A Scoping Review of Rehabilitation Interventions for Survivors of Head and Neck Cancer. Disabil Rehabil. 2019;41(17):2093-2107.
5. Wittry SA, Lam NY, McNalley T. The Value of Rehabilitation Medicine for Patients Receiving Palliative Care. Am J Hosp Palliat Care. 2018;35(6):889-896.
6. European Society for Medical Oncology (ESMO). Cancer Pain: An ESMO Guide for Patients. 2019. https://www.esmo.org/content/download/211169/3738827/1/EN-Cancer-Pain-Management-Guide-for-Patients.pdf
7. National Comprehensive Cancer Network (NCCN). Survivorship Care for Cancer-Related Late and Long-Term Effects. 2020. https://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf

Chapte 8

Psychological Care and Spiritual Care

1. Introduction

1.1. When a patient experiences cancer pain, the problems that arise are not only the pain itself, but also the comprehensive impact caused by cancer and cancer pain, including physical, psychological (mental, emotional), spiritual (mind), and social (family, interpersonal) aspects.

1.2. To effectively treat cancer pain, a multidimensional approach to holistic care must be taken. The dimensions of holistic care can be broadly divided into physical care (care for the body and treatment of diseases), psychological care (support in the mental and emotional aspects), spiritual care (spiritual or soul care), and social care (strengthening family, interpersonal relationships, and community support). Among these, psychological care and spiritual care are important methods for alleviating cancer pain.

1.3. This chapter specifically introduces the psychological care and spiritual care commonly used in medical units.

2. Content of psychological care and spiritual care

2.1. Provide patients, family members, and caregivers with knowledge about cancer and cancer pain.

2.2. Guide patients, family members, and caregivers in learning psychological therapy skills to enhance their ability to cope with cancer and cancer pain psychologically and mentally.

2.3. Encourage patients, family members, and caregivers to actively participate in the treatment of cancer and cancer pain.

2.4. Provide patients with spiritual, emotional, and mind care and support in order to obtain positive emotions and inner peace.

3. Common psychological care methods

3.1. Cognitive-behavioral therapy.

3.2. Mindfulness-based stress reduction therapy.

3.3. Acceptance and commitment therapy.

3.4. Motivational interviewing.

3.5. Relaxation training.

3.6. Art and music therapy.

3.7. Other methods.

4. Cognitive-behavioral therapy

4.1. The theoretical basis of cognitive-behavioral therapy is that a person's cognition affects their emotions and behavior.

4.2. Key points of pain cognitive-behavioral therapy

(1) Inform patients about the causes, risk factors, preventive measures, and improvement methods of pain.

(2) Assist patients in identifying the impact of negative cognition caused by pain on their emotions.

(3) Teach patients activities and exercises to overcome pain.

4.3. Implementation steps:

(1) Explain the principles and methods of treatment.

(2) Set personal treatment goals.

(3) Analyze existing pain coping strategies and learn new and appropriate coping techniques.

(4) Set tasks and record the implementation at home.

5. Mindfulness-based stress reduction meditation therapy

5.1. Mindfulness-based stress reduction therapy is a relaxation therapy that combines mindfulness meditation, self-body scanning, and yoga, which is beneficial for the treatment of cancer pain.

5.2. Self-body scanning is done in a sitting or lying position, relaxing the mind and focusing attention on the present moment, observing one's breath, and systematically focusing on different parts of the body from the toes to the top of the head, observing the sensations in each part of the body and accepting each sensation.

5.3. Mindfulness emphasizes focusing thoughts on the present moment, complete open self-awareness, and weakening the significance or importance of negative thoughts.

6. Acceptance and commitment therapy

6.1. Acceptance and commitment therapy encourages patients to shift their mindset and pursue goals aligned with their values, such as doing good deeds, maintaining family harmony, promoting health, staying positive (having a cheerful mood), or establishing financial support.

6.2. The practical methods of this therapy include:

(1) Not reacting to negative thoughts.

(2) Observing, experiencing, and accepting one's own thoughts.

(3) Clarifying personal values and the value of existence (contributions to family or society).

(4) Focusing on goals aligned with values.

(5) Taking action to increase inner resilience.

7. Motivational interviewing

7.1. The purpose of this method is to understand and address conflicting emotions, find internal motivation for behavior change, and prepare for further treatment.

7.2. Principles of patient care include expressing empathy, avoiding arguments and resistance, and supporting behavior change.

8. Relaxation training

8.1. Relaxation training includes techniques such as meditation, diaphragmatic breathing, progressive muscle relaxation, and guided imagery.

8.2. Learning relaxation techniques is a useful self-management strategy, especially for patients experiencing pain exacerbation.

9. Art and music therapy

9.1. Art and music therapy can stabilize emotions by changing the functioning of neural networks in the brain.

9.2. Through art and music, patients can express inner perceptions, feelings, and relieve inner stress, thereby stabilizing and regulating emotions.

9.3. Art and music therapy can be tailored based on individual preferences and tastes.

10. Other methods

10.1. Hypnosis: Inducing a highly focused non-sleep state of bodily relaxation through verbal or environmental suggestions, the therapist introduces new thoughts and feelings to accelerate therapy.

10.2. Distracted attention training: Shifting attention cognitively or behaviorally to unrelated matters from pain.

10.3. Active coping training: Practicing strategies for actively coping with and resolving stressful situations.

11. Involvement of family

11.1. The patient's condition and the relationship with family and community have a mutually influential connection.

11.2. When family members, especially spouses, participate in assisting the patient's treatment, better therapeutic outcomes can be achieved.

12. Spiritual (mental) care

12.1. Introduction to spiritual (mental) care:

(1) Definition of spirituality: It is an inner experience and cognition related to the ultimate meaning of personal existence. It affirms the value of self-existence and can be sought through religion or exist within culture.

(2) When a cancer patient's spiritual state is poor, it can worsen the condition, lead to despair, and even trigger suicidal thoughts, negatively impacting the patient's quality of life.

(3) Similar to other symptoms, when a patient experiences spiritual pain, it also needs relief.

12.2. Methods for providing spiritual (mental) care to patients:

(1) Approach with empathy.

(2) Listen attentively and contemplate.

(3) Understand the sources of the patient's spiritual support.

(4) Explore the patient's beliefs and values.

(5) Conduct a life review focused on the patient's life meaning and values.

(6) Seek appropriate treatment models aligned with the patient's values.

(7) Affirm the patient's value and capabilities and express their inner vitality (such as engaging in artistic or musical activities).

12.3. Religious support

For cancer patients, there may be physical pain, psychological pain, spiritual pain, and problems related to finances and family. Having religious beliefs and support can effectively alleviate cancer pain.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。 http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. PDQ® Supportive and Palliative Care Editorial Board. PDQ Spirituality in Cancer Care. Bethesda, MD: National Cancer Institute. https://www.cancer.gov/about-cancer/coping/day-to-day/faith-and-spirituality/spirituality-hp-pdq
3. Casula C. Clinical Hypnosis, Mindfulness and Spirituality in Palliative Care. Ann Palliat Med. 2018;7(1):32-40.
4. Siler S, Borneman T, Ferrell B. Pain and Suffering. Semin Oncol Nurs. 2019;35(3):310-314.
5. Balducci L. Geriatric Oncology, Spirituality, and Palliative Care. J Pain Symptom Manage. 2019;57(1):171-175.
6. Steinhorn DM, Din J, Johnson A. Healing, Spirituality and Integrative Medicine. Ann Palliat Med. 2017;6(3):237-247.
7. National Cancer Institute (NIH). Cancer Pain Control: Support for People With Cancer. 2019. https://www.cancer.gov/publications/patient-education/paincontrol.pdf
8. National Comprehensive Cancer Network (NCCN). Survivorship Care for Cancer-Related Late and Long-Term Effects. 2020. https://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf

Chapte 9

Treatment with Non-Opioid Analgesics

1. Introduction

1.1. There are many methods to relieve cancer pain, and using pain medication is one option. Pain medications can generally be divided into two categories: non-opioid analgesics and opioid analgesics.

1.2. The World Health Organization released a three-ladder drug treatment model for cancer pain in 1986 as follows:

(1) Ladder 1 (mild pain): Use non-opioid drugs such as acetaminophen, aspirin, or non-steroidal anti-inflammatory drugs, and add other adjuvant medications as necessary.

(2) Ladder 2 (mild to moderate pain): Use weak opioids such as codeine and tramadol, and add medications from Ladder 1 as necessary.

(3) Ladder 3 (moderate to severe pain): Use strong opioids such as morphine and fentanyl, and add medications from Ladder 1 as necessary.

Note: The World Health Organization's version after 2012 allows for the direct selection of appropriate ladders and pain medications based on the level of pain, without the need for sequential progression. In Ladder 2, low-dose strong opioids can also be used directly.

1.3. Non-opioid analgesics used for cancer pain treatment include acetaminophen, non-steroidal anti-inflammatory drugs, antidepressants, antiepileptic drugs, local anesthetic patches, and corticosteroids.

2. Acetaminophen

2.1. Action: Treats mild to moderate pain and has antipyretic effects.

2.2. Indications: Acute or chronic (short or long-term) pain caused by muscle, skeletal, or other non-neuronal tissue damage.

2.3. Side effects or contraindications: (1) Caution should be taken to prevent its toxicity to the liver. (2) It should be used with caution or at reduced doses in patients undergoing chemotherapy, with liver tumors or liver metastases, or with impaired liver function.

3. Non-steroidal anti-inflammatory drugs

3.1. Action: Treats mild to moderate pain and has anti-inflammatory and antipyretic effects.

3.2. Indications: Acute or chronic pain caused by muscle, skeletal, or other non-neuronal tissue damage, but long-term use is not recommended.

3.3. Side effects or contraindications:

(1) Cardiac toxicity: This type of medication may have cardiac toxicity. It is not recommended for use in patients with heart failure or hypertension.

(2) Blood toxicity: When used in combination with anticoagulants, it may enhance the anticoagulant effect and cause bleeding crises. It is not recommended to be used together with aspirin.

(3) Renal toxicity: This type of medication has renal toxicity (a side effect of the medication).

- High-risk groups: Those over 60 years old, dehydrated, with multiple myeloma, diabetes, kidney disease, or using chemotherapy drugs with renal toxicity.
- During the use of this type of medication, if the patient's renal function deteriorates or hypertension occurs, the use of this type of medication should be reduced or the dosage should be lowered.

(4) Gastrointestinal toxicity: This type of medication has gastrointestinal toxicity (a side effect of the medication).

- High-risk groups: Those over 60 years old, with a history of peptic ulcers, heavy alcohol consumption, use of corticosteroid medications, or long-term use of aspirin.
- During the use of this type of medication, if the patient develops peptic ulcers or gastrointestinal bleeding, the use of this type of medication should be stopped.

3.4. Examples of commonly used medications (due to the large number of brand / trade names for medications, only the generic names of their main components are listed here for reference): indomethacin, methyl salicylate, etofenamate, diclofenac, piroxicam, niflumic acid, flurbiprofen.

Note: The following medications have relatively less toxicity on the gastrointestinal, renal, and hematological systems, but their toxic effects on the cardiovascular system should still be considered. Medications such as celecoxib, etoricoxib, and parecoxib.

4. Antidepressants

4.1. Action: Can be used to treat various types of neuropathic pain, including those caused by cancer or non-cancer conditions. The analgesic effect does not require the antidepressant effect of the medication, and the dosage required for pain relief is lower than that used for treating depression, and its onset of action also occurs earlier.

4.2. Indications:

(1) Treating various types of neuropathic pain.

(2) Treating neuropathy and neuropathic pain caused by chemotherapy or radiation therapy.

(3) Treating neuropathy and neuropathic pain caused by tumor compression.

4.3. Side effects or contraindications:

(1) When patients have impaired liver or kidney function, the dosage should be adjusted.

(2) Common side effects include drowsiness, weakness, restlessness, insomnia, blurred vision, difficulty urinating, postural hypotension, abnormal cardiac conduction system, weight gain, and sexual dysfunction.

(3) After taking the medication, avoid operating machinery or driving, and avoid consuming alcohol.

4.4. Examples of commonly used medications (due to the large number of brand / trade names for medications, only the generic names of their main components are listed here for reference): amitriptyline, imipramine, nortriptyline, desipramine.

5. Anticonvulsants

5.1. Action: Can be used to treat various types of neuropathic pain, including those caused by cancer or non-cancer conditions.

5.2. Indications:

(1) Treating various types of neuropathic pain.

(2) Treating neuropathy and neuropathic pain caused by chemotherapy or radiation therapy.

(3) Treating neuropathy and neuropathic pain caused by tumor compression.

5.3. Side effects or contraindications:

(1) Common side effects include drowsiness, weight gain, rash, dizziness, imbalance (unsteady gait), and swollen gums.

(2) Contraindications: After taking the medication, avoid operating machinery or driving, and avoid consuming alcohol.

(3) Reduce the dosage for older patients or those with weakened physical condition or renal insufficiency.

5.4. Examples of commonly used medications (due to the large number of brand / trade names for medications, only the genericnames of their main components are listed here for reference): gabapentin, carbamazepine, lamotrigine, pregabalin, topiramate, oxcarbazepine.

6. Local anesthetic patches

6.1. Action: Acts on the local skin to produce analgesic effects.

6.2. Mechanism of action: Improve local pain conditions.

6.3. Indications: Local pain.

6.4. Precautions:

(1) Should be applied to healthy and intact skin.

(2) When reapplying, pay attention to the condition of the skin.

6.5. Examples of commonly used medications (due to the large number of brand / trade names for medications, only the generic names of their main components are listed here for reference): lidocaine, dibucaine, benzocaine.

7. Corticosteroids

7.1. Action: Treat tissue pain caused by acute inflammation.

7.2. Mechanism of action: Anti-inflammatory effect.

7.3. Indications or side effects:

(1) Can be used to treat acute pain crises in cancer patients, but only for short-term use.

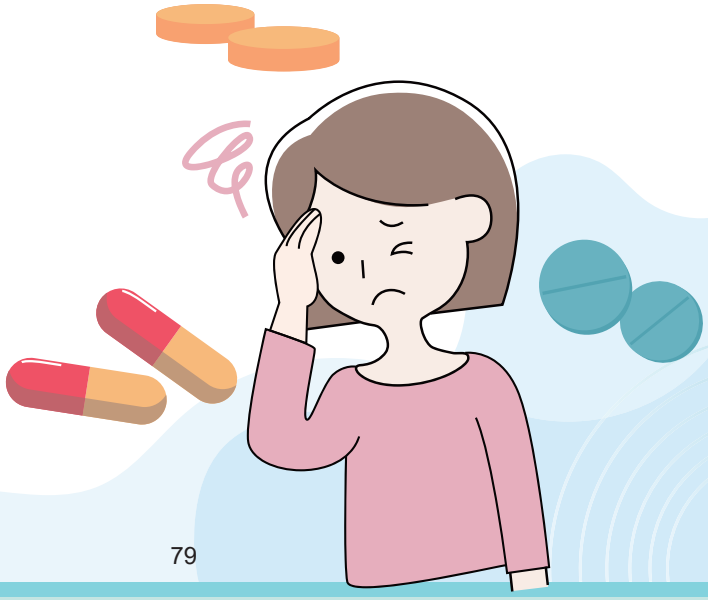
(2) Can also be used to treat severe nausea and vomiting caused by chemotherapy or radiation therapy.

(3) Long-term use has many side effects and is not recommended.

7.4. Examples of commonly used medications (due to the large number of brand / trade names for medications, only the generic names of their main components are listed here for reference): dexamethasone, prednisolone, triamcinolone, betamethasone, methylprednisolone, hydrocortisone, cortisone.

8. Recommended dosage for medication use

Please refer to the indications and contraindications of each individual medication, as well as the information on the medication label. Then, consider the individual patient's information such as age, gender, type and stage of cancer, patient's physical condition, organ function, and effectiveness of tumor treatment. Use the appropriate medication and dosage as instructed by the doctor.



Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。
http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. World Health Organization(WHO). WHO Guidelines on the Pharmacological Treatment of Persisting Pain in Children with Medical Illnesses. 2012
https://www.apsoc.org.au/PDF/SIG-Pain_in_Childhood/WHO_Guidelines.pdf
3. 台灣疼痛醫學會、台灣癌症安寧緩和醫學會。癌症疼痛之藥物治療指引 第七版 2018
https://www.wecare.org.tw/wp-content/uploads/2018/11/Cancer-Pain_%E7%B7%9A%E4%B8%8A%E7%89%88%E5%85%A8%E4%B8%8D%E5%8F%AF%E8%A4%87%E8%A3%BD1115.pdf
4. National Comprehensive Cancer Network (NCCN). Survivorship Care for Cancer-Related Late and Long-Term Effects. 2020.
https://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf
5. American Society of Clinical Oncology (ASCO). Managing Cancer-Related Pain. 2020.
https://www.cancer.net/sites/cancer.net/files/managing_pain_booklet.pdf
6. Imperial College Healthcare NHS Trust. Controlling Your Pain with Opioids: Information for Patients, Relatives and Carers. 2018.
https://www.imperial.nhs.uk/-/media/website/patient-information-leaflets/pain-management/controlling-your-pain-with-opioids.pdf?rev=6c770c7a0d564af4b4f24f68288b72fb

Chapte 10

Treatment with Opioid Analgesics

1. Introduction

1.1. Opioid analgesics are addictive narcotics. When these drugs are misused or abused, they can be addictive. Please use them according to the doctor's instructions.

1.2. Opioid analgesics can be divided into weak opioids and strong opioids. The analgesic effect of strong opioids increases with higher doses, and there is no absolute maximum dose. The various forms of opioid analgesics include oral, injection (can be used for intravenous injection, intramuscular injection, spinal injection, and subcutaneous infusion), nasal spray, transdermal patch, buccal tablet, and sublingual tablet.

1.3. Before initiating the use of opioid analgesics, the physician will conduct a series of assessments based on the patient's condition. This includes evaluating the potential for abuse and misuse associated with the use of opioid analgesics, establishing goals for pain improvement, and setting expectations for the restoration of physical (functional) abilities and emotional (quality of life) enhancement (see Chapter Three for details).

1.4. During medical appointments, patients should inform the physician about the status of pain relief, the recovery of physical (functional) abilities, and improvements in emotional well-being, facilitating appropriate management of the patient's condition.

2. Precautions when using opioid analgesics

2.1. Common side effects of opioid analgesics include nausea, vomiting, constipation, sedation, delirium (mental confusion, disorientation), and itching. These side effects can be prevented or treated. Please contact the prescribing doctor if you experience any discomfort.

2.2. Sedation is the most common side effect of these drugs. Most patients feel drowsy after taking the medication. Do not drive, operate machinery, or engage in activities that require mental effort during this time. This phenomenon usually becomes less noticeable within 7-10 days of starting opioid analgesic therapy due to the development of tolerance. If the condition does not improve after 7-10 days, inform the doctor and discuss the reasons.

2.3. Respiratory depression: This is the most serious side effect of opioid analgesics, but it only occurs when the dosage is too high or when the patient's respiratory function is poor. As long as the dosage of opioid analgesics can be gradually adjusted, respiratory depression is rare. Even if there is mild respiratory depression, it will gradually recover with prolonged treatment (approximately 1-3 weeks). In other words, patients using opioid analgesics for long-term pain management will not experience respiratory depression unless there is a change in their condition (worsening of respiratory function) or after increasing the dosage.

2.4. When opioid analgesics are used in conjunction with alcohol or sedatives, there is a possibility of drug overdose, including slurred speech, emotional lability, unsteady gait, slow breathing, confusion, cyanosis, coma, and even death. Do not drink alcohol while using opioid analgesics.

2.5. The chance of addiction is very low when using opioid analgesics as prescribed. However, individuals with a history of addiction to opioids, alcohol (excessive drinking), or other drugs may have a higher risk of addiction.

2.6. Please use opioid analgesics as prescribed by the doctor and do not adjust the route or dosage of administration on your own. When the medication needs to be reduced, it should be done gradually and according to the doctor's instructions. Do not stop abruptly.

2.7. Do not give opioid analgesics to family members or friends (others) for use.

2.8. After receiving opioid analgesics, please store them properly and do not place them randomly to avoid loss or accidental use by children. If there are unused medications, they should be returned to the medical institution where they were prescribed.

2.9. Do not chew extended-release tablets for oral use, and do not use non-injectable medications through injection.

3. Instructions for home use of individual opioid analgesics

The following information is based on the reference of individual drug package inserts; please refer to Table 1 for drug categories:

3.1. Morphine (morphine sulfate: immediate-release tablets, extended-release tablets, sustained-release capsules)

(1) Action

Morphine sulfate is a potent analgesic used for the relief of severe pain.

(2) Usage

- For extended-release or immediate-release tablets, swallow the whole tablet without chewing.
- When using sustained-release capsules, swallow the whole capsule or open it and sprinkle the small beads inside into a non-alcoholic cold beverage. Do not crush or chew the small beads inside the capsule.

(3) Precautions

- If you have allergies to morphine, liver dysfunction, respiratory depression, asthma, heart failure, arrhythmias, head injuries, brain tumors, acute alcohol poisoning, seizures, etc., please inform your doctor during consultation for assessment of whether it is safe to use.
- Abrupt discontinuation of continuous use or concurrent use of opioid antagonist drugs may cause withdrawal symptoms such as tearing, cold sweats, nausea, vomiting, diarrhea, abdominal pain, dilated

pupils, headache, insomnia, restlessness, delirium, tremors, muscle and joint pain, and respiratory urgency.

- This medication should not be used if there is a possibility of paralytic ileus.
- After taking the medication, you may feel drowsy. Please try to avoid engaging in activities that require full attention or may cause danger, such as driving or operating machinery.
- The safety of this medication in pregnant women has not been established. If you are planning to become pregnant, already pregnant, or breastfeeding, please inform your doctor during consultation for assessment of whether it is safe to use.

(4) Related side effects

Respiratory depression, nausea, vomiting, facial flushing, palpitations, biliary spasm, constipation, insomnia, headache, hallucinations, urinary retention, itching, hives, etc.

(5) What to do if you forget to take the medication

If you regularly take this medication, take it immediately when you remember. However, if it is close to the next dose, just take the next dose and do not take a double dose at once or within a short period of time.

(6) Storage and disposal of the medication

Store the medication at room temperature and avoid storing it in high temperature or humid places.

3.2. Fentanyl transdermal patch

(1) Action

The fentanyl transdermal patch is a potent analgesic. The medication is absorbed by the subcutaneous microvessels from the patch and enters the body to produce analgesic effects. The medication is continuously released from the patch within 72 hours and absorbed into the systemic circulation to produce pain relief.

(2) Usage

- Preparations before use

☆ The fentanyl transdermal patch should be applied to a normal and flat skin surface on the trunk or upper arm. For younger children, the upper back is a more ideal site.

☆ Before using the patch, shave the hair from the application site (preferably an area without hair growth) and avoid using a razor to prevent skin abrasion.

☆ Then clean the skin at the application site with water. Do not use soap, oil, lotion, or any substances that may irritate the skin or alter the skin texture.

☆ After the skin is completely dry, apply the patch.

- Application method

☆ Take out the fentanyl patch from the sealed packaging (use it immediately after taking it out).

☆ Remove the protective layer of the patch.

☆ Apply the patch to the skin and press it gently with the palm for 30 seconds to ensure full contact between the entire patch and the skin. Pay special

attention to the corners and use breathable adhesive tape to secure the edges of the patch for better fixation.

☆ After applying the patch, wash your hands with water.

- Removal of the patch

☆ Used patches should be stuck back onto the original packaging and return them together with the record sheet to the pharmacy of the medical institution where you received treatment.

☆ Unused patches should be returned to the pharmacy of the medical institution where you received treatment.

(3) Precautions

- Before use, check the integrity of the patch. Do not use a patch that has been cut, divided, or damaged.
- The patch can be used continuously for up to 72 hours. After removing the patch, the new patch should be applied to a different location than the previous one. The skin in the same area should be separated for several days (about one week) before applying a new patch.
- When bathing, you can take a shower, but do not locally heat or soak the area where the patch is applied to avoid accelerating the release and absorption of the medication.

(4) Other information

- Please apply the patch to the appropriate location according to the doctor's instructions, such as the front chest, back, upper arm, thigh, etc. (no need to apply it where it hurts).

- After removing the patch, the medication components will still remain in the skin for up to 24 hours, so there is no need to worry about immediately losing the effectiveness of the medication and experiencing pain.
- When using the patch for the first time, because the patch needs to be absorbed by the skin to take effect, it works slowly. Therefore, within 12-24 hours after applying the patch, you still need to take oral pain medication. If you want to switch from oral pain medication to patch, you can apply the patch at the same time as taking the last dose of oral pain medication.
- If there is sudden pain, please take other pain medication that can take effect immediately according to the doctor's instructions (such as buccal or sublingual tablets used in the oral cavity).

(5) Related side effects

- Common side effects include slow breathing, nausea, vomiting, constipation, sedation, and drowsiness. Please keep a record of the side effects and explain them to the doctor during the visit.
- If there are severe side effects such as allergic reactions, difficulty breathing, muscle spasms, persistent chest pain, or irregular heartbeat, please go to the emergency room of the hospital immediately.

(6) Handling of missed doses

- When you remember to change the patch, please remove the old patch immediately and apply a new one.
- Do not use a double dose.

(7) Storage

Store the medication in its original unopened packaging at a temperature below 25˚C.

3.3. Fentanyl buccal films (e.g. PAINKYL® buccal film)

(1) Action

Fentanyl buccal films are a potent analgesic used for the management of breakthrough pain in cancer patients by absorbing the medication through the oral mucosa.

(2) Usage

- Opening the fentanyl buccal film:

☆ Hold the aluminum foil package with the back facing you and cut along the arrow direction with scissors.

☆ Repeat the above step to open the package on the other side.

☆ Peel off the two layers of the aluminum foil package and take out the buccal film.

- Using the fentanyl buccal film:

☆ Moisten the inner walls of the cheeks in the mouth with the tongue or rinse with water to moisten the area where the buccal film will be applied.

☆ Place the entire buccal film near the fingertip of a clean and dry hand, with the pink side facing up.

☆ Place the buccal film in the mouth, with the pink side adhering to the moistened inner cheek wall, press and hold the buccal film in a fixed position for 5 seconds to ensure it is securely attached.

☆ Keep the buccal film attached to the fixed position until it dissolves (usually within 15-30 minutes).

(3) Precautions

- Do not chew or swallow the fentanyl buccal film; do not cut or tear the buccal film.
- Open the packaging right before using the buccal film.
- After 5 minutes of applying the buccal film, you can drink liquids.
- Before the film dissolves, avoid touching or moving the buccal film. Do not manipulate the buccal film with the tongue or fingers and avoid eating.
- If you need to treat a new episode of breakthrough pain, there should be at least a 2-hour interval between using the buccal films.
- When using the buccal film, it is essential to continue regular use of the existing opioid pain medication.
- If you need to use the buccal film more than 4 times a day, discuss with your doctor as there may be a need to adjust the dosage of the regular opioid pain medication.

(4) Related side effects

Dizziness, nausea, vomiting, drowsiness, constipation, excessive sweating, shortness of breath.

(5) Storage

Store the medication at room temperature and avoid storing it in high temperature or humid places.

3.4. Fentanyl buccal tablets (e.g. Fentora buccal tablets)

(1) Action:

Fentanyl buccal tablets are a potent analgesic used for the management of breakthrough pain in cancer patients through absorption via the oral mucosa.

(2) Usage

- Opening the fentanyl buccal tablets:

☆ Remove the tablet from the packaging as indicated, tear along the perforation to remove the tablet from the aluminum foil.

☆ Do not push the tablet out from the aluminum foil, as this may damage the tablet.

☆ Once the tablet is removed from the packaging, use it immediately.

- Buccal tablet usage:

☆ Place the tablet in the buccal cavity (above the molar teeth, between the cheek and gum), or place the entire tablet under the tongue until it dissolves, which usually takes about 14 to 25 minutes.

☆ If there is still residual tablet after 30 minutes, it can be swallowed with a glass of water.

☆ If the patient uses the tablet multiple times within a day, alternate between the two sides of the oral cavity.

(3) Precautions

- Do not crush, inhale, chew, or swallow the fentanyl buccal tablets whole.
- Open the packaging right before using the buccal tablet to avoid tablet damage or unnecessary contact.
- If breakthrough pain persists after 30 minutes, another dose of the same strength can be used to relieve the same episode. This buccal tablet can be used a maximum of two times during each episode of breakthrough pain.

- There should be at least a 4-hour interval between treating new episodes of breakthrough pain.
- While using this buccal tablet, it is essential to continue using the existing opioid analgesic.
- If experiencing more than four episodes of breakthrough pain per day, discuss with a doctor as the regular dose of opioid analgesic may need adjustment.
- During the initiation and adjustment of this medication, closely monitor for respiratory depression. Seek medical attention promptly if breathing difficulties occur.
- Avoid alcohol consumption during the use of this buccal tablet to prevent respiratory depression.
- The use of this buccal tablet may impair the ability to engage in hazardous activities. Avoid driving or operating dangerous machinery.
- This buccal tablet may cause postural hypotension and syncope. Be cautious when standing up from a sitting or lying position.

(4) Related side effects

Dizziness, nausea, vomiting, drowsiness, constipation, excessive sweating, shortness of breath.

(5) Storage and disposal of medication

Store the medication at room temperature, avoid storing it in high temperature or humid areas.

3.5. Oxycodone (e.g. OxyNorm® immediate-release capsules; OxyContin® controlled-release tablets)

(1) Action

Oxycodone is a potent analgesic used for the relief of moderate to severe pain.

(2) Usage

If using sustained-release tablets (e.g. OxyContin), they should be swallowed whole and not crushed, chewed, or dissolved, as this may lead to excessive release of the drug and the risk of a lethal dose.

(3) Precautions

- If you have liver or kidney dysfunction, severe respiratory depression, asthma, head injury, chronic obstructive pulmonary disease, epilepsy, or suspected paralytic intestinal obstruction and gastrointestinal obstruction, please inform your doctor when seeking medical attention to assess whether it is safe to use.
- After taking the medication, you may feel drowsy or experience low blood pressure. Avoid engaging in activities that require full attention or may be dangerous, such as driving or operating machinery.
- Please inform your doctor or pharmacist if you are taking other medications, especially sedatives, sleeping pills, or muscle relaxants.
- The safety of this medication in pregnant women has not been established. If you are planning to become pregnant, are already pregnant, or are breastfeeding, please inform your doctor when seeking medical attention to assess whether it is safe to use.

(4) Related side effects

Constipation, nausea, drowsiness, vomiting, fatigue, headache, dizziness, abdominal pain, difficulty breathing, increased heart rate, low blood pressure.

(5) What to do if you forget to take the medication

If you regularly take this medication, take it immediately when you remember. However, if it is close to the next dose, take the next dose directly. Do not take two doses at once or within a short period of time.

(6) Storage

Store the medication at room temperature and avoid storing it in high temperatures or humid places.

3.6. Buprenorphine transdermal patch (e.g. Transtec® transdermal patch)

(1) Action

Buprenorphine transdermal patch is a potent analgesic that is absorbed through the subcutaneous microvasculature to produce its effect. The analgesic effect of the patch appears after 12-24 hours of use, reaches its peak at around 3 days, and can last up to 96 hours. It is suitable for the relief of moderate to severe pain.

(2) Usage

- Choose clean, hairless, and flat skin for application, avoiding areas with large scars. The upper body, such as the upper back or below the clavicle, is the preferred site for application.
- Clean the application site with water, do not use soap or any other cleanser, and ensure that the skin is completely dry before applying the patch.
- After removing the patch from the packaging, immediately apply it to the application site and press it firmly with your palm for about 30 seconds.

(3) Warnings and precautions

- New buprenorphine transdermal patches should be applied to different skin sites; the same site should be at least 3 weeks apart before applying a new patch.
- This patch can be applied for up to 4 days and should be changed twice a week at fixed intervals (e.g., Monday morning and Thursday evening).
- Regardless of the strength of the dosage, more than one patch should not be used at the same time.
- This patch is not affected by bathing, showering, or swimming, but it should not be exposed to high heat (e.g., steam baths, infrared radiation) to avoid excessive drug release.
- This patch is a special sustained-release dosage form and should not be cut, as it may disrupt the drug's effectiveness.
- Since no studies have been conducted on patients under 18 years old, it is not recommended for use in patients younger than this age.
- This patch is not allowed for use during pregnancy or by breastfeeding women.
- This patch may cause severe respiratory depression, so caution should be exercised when used in patients with respiratory insufficiency.
- At the beginning of treatment, when changing the dosage, or when using this patch in combination with other substances that may affect mental status (including alcohol, tranquilizers, sedatives, and sleeping pills), dizziness or drowsiness may occur, as well as blurred or double vision. Patients experiencing these conditions should not drive or operate machinery for at least 24 hours during the use of this patch and after its removal.

(4) Related side effects

Dizziness, headache, drowsiness, nausea, constipation, local itching, vomiting, redness at the patch site.

(5) Storage

Store the medication at room temperature and avoid storing it in high temperatures or humid places.

3.7. Buprenorphine sublingual tablets (e.g. Temgesic® sublingual tablets)

(1) Action

Buprenorphine sublingual tablets are a potent analgesic that is absorbed into the body through the sublingual microvessels and is used for the relief of moderate to severe pain.

(2) Usage

This medication should be placed under the tongue and allowed to dissolve and be absorbed. Do not chew or swallow. Please follow the prescribed usage and dosage instructions from your doctor.

(3) Precautions

- If you have kidney disease, head injury, increased intracranial pressure, cardiovascular disease, gastrointestinal disease, etc., please inform your doctor during the consultation and let the doctor evaluate whether it is safe to use.
- After taking the medication, you may feel drowsy, so try to avoid engaging in activities that require full attention or may be dangerous, such as driving or operating machinery.

- Do not drink alcohol during the medication period. Please inform your doctor or pharmacist if you are taking other medications, especially sedatives, sleeping pills, antihistamines, etc.
- The safety of this medication in pregnant women has not been established. If you are planning to become pregnant, are already pregnant, or breastfeeding, please inform your doctor during the consultation and let the doctor evaluate whether it can be used.
- After taking the medication, wait until the medication is completely dissolved on the oral mucosa before gently rinsing with water and drinking, and wait at least one hour before brushing your teeth.

(4) Related side effects

Swelling, dizziness, drowsiness, weight gain, blurred vision, constipation, dry mouth.

(5) Handling of missed doses

If you regularly take this medication, take it immediately when you remember that you missed a dose. However, if it is close to the next dose, take the next dose directly. Do not take two doses at once or within a short period of time.

(6) Storage

Store the medication at room temperature and avoid storing it in high temperature or humid places.

3.8. Codeine tablets (e.g. Codeine® phosphate tablets)

(1) Action

Codeine phosphate is a weak analgesic mainly used for cough suppression and pain relief.

(2) Usage

Please follow the prescribed usage and dosage instructions from your doctor. Do not increase the dosage or frequency of medication without the doctor's permission.

(3) Precautions

This medication may cause drowsiness, so do not drive or use dangerous machinery after taking the medication.

(4) Related side effects

Side effects are not common, but may include constipation, nausea, vomiting, headache, etc.

(5) Handling of missed doses

If you regularly take this medication, take it immediately when you remember that you missed a dose. If it is close to the next dose, take the next dose directly. Do not take two doses at once or within a short period of time.

(6) Storage

Store the medication at room temperature and avoid storing it in high temperature or humid places.

3.9. Tramadol (e.g. tramal® capsules)

(1) Action

Tramadol is a weak analgesic.

(2) Usage

If it is a sustained-release tablet or prolonged-release formulation, it should be swallowed whole and should not be crushed or split.

(3) Precautions

- When used in combination with central nervous system drugs (such as sedatives, sleeping pills), it may enhance the sedative effect and the analgesic effect. Use with caution.
- This medication is contraindicated in patients who are allergic to the ingredients of this medication, as well as patients with acute alcohol poisoning, sedative, analgesic poisoning, or psychiatric drug poisoning.
- This medication is not recommended for use in pregnant women. If you are planning to become pregnant or are already pregnant, please inform your doctor during the consultation and let the doctor evaluate whether it can be used.
- This medication is not suitable for children under 12 years old.

(4) Related side effects

Dizziness, headache, drowsiness, constipation, nausea, vomiting, dry mouth, gastrointestinal discomfort.

(5) Handling of missed doses

If you regularly take this medication, take it immediately when you remember that you missed a dose. If it is close to the next dose, take the next dose directly. Do not take two doses at once or within a short period of time.

(6) Storage

Store the medication at room temperature and avoid storing it in high temperature or humid places.

3.10.Tramadol and acetaminophen combination tablets (e.g. Tramacet® tablets)

(1) Action

This dosage form is a weak opioid analgesic (tramadol) combined with a central analgesic (acetaminophen). This combination of drugs with different mechanisms of action has a synergistic analgesic effect and is used to treat moderate to severe pain that is not effectively relieved by non-opioid analgesics.

(2) Usage

Please follow the prescribed usage and dosage of the doctor. Do not increase the dosage or frequency of medication without the consent of the doctor; the total daily dosage for adults should not exceed 8 tablets.

(3) Precautions

- Use with caution when used in combination with central nervous system drugs (such as sedatives, sleeping pills), it may enhance sedative effects and analgesic effects.
- This medication is contraindicated in patients who are allergic to its ingredients, as well as in patients with acute alcohol poisoning, sleeping pill overdose, analgesic overdose, or psychotropic drug overdose.
- If you have liver disease, please inform the doctor during the visit for evaluation of whether it can be used.
- Avoid alcohol when taking this medication. If you have a habit of heavy drinking, please inform your doctor in advance.
- This medication is not recommended for use in

pregnant women. If you are planning to become pregnant or are already pregnant, please inform the doctor during the visit for evaluation of whether it can be used.

- This medication is not suitable for children under 12 years old.
- If you are taking other pain relievers, antipyretics, or cold medicines that contain acetaminophen, please inform the doctor or pharmacist during the visit and do not exceed the recommended dosage.

(4) Related side effects

Dizziness, headache, drowsiness, constipation, nausea, vomiting, dry mouth, gastrointestinal discomfort, rash, tinnitus, etc.

(5) Handling of missed doses

If you regularly take this medication, take it immediately when you forget to take it. However, if it is close to the next dose time, just take the next dose and do not take two doses at once or within a short period of time.

(6) Storage

Store the medication at room temperature and avoid storing it in high temperature or humid places.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。
http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. 衛生福利部食品藥物管理署。癌症疼痛成癮性麻醉藥品使用指引暨管理注意事項。衛生福利部。2018。
https://www.fda.gov.tw/TC/lawContent.aspx?cid=183&pn=2&id=3084
3. 衛生福利部食品藥物管理署。末期病人居家治療使用成癮性麻醉藥品管理注意事項。衛生福利部。2020。
https://www.fda.gov.tw/TC/lawContent.aspx?cid=183&id=3300
4. World Health Organization(WHO). WHO Guidelines on the Pharmacological Treatment of Persisting Pain in Children with Medical Illnesses. 2012
https://www.apsoc.org.au/PDF/SIG-Pain_in_Childhood/WHO_Guidelines.pdf
5. 台灣疼痛醫學會、台灣癌症安寧緩和醫學會。癌症疼痛之藥物治療指引 第七版 2018
https://www.wecare.org.tw/wp-content/uploads/2018/11/Ca66ncer-Pain_%E7%B7%9A%E4%B8%8A%E7%89%88%E5%85%A8%E4%B8%8D%E5%8F%AF%E8%A4%87%E8%A3%BD1115.pdf
6. Imperial College Healthcare NHS Trust. Controlling Your Pain with Opioids: Information for Patients, Relatives and Carers. 2018.
https://www.imperial.nhs.uk/-/media/website/patient-information-leaflets/pain-management/controlling-your-pain-with-opioids.pdf?rev=6c770c7a0d564af4b4f24f68288b72fb

7. European Society for Medical Oncology (ESMO). Cancer Pain: An ESMO Guide for Patients. 2019. https://www.esmo.org/content/download/211169/3738827/1/EN-Cancer-Pain-Management-Guide-for-Patients.pdf

8. American Society of Clinical Oncology (ASCO). Managing Cancer-Related Pain. 2020. https://www.cancer.net/sites/cancer.net/files/managing_pain_booklet.pdf

9. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Adult Cancer Pain (Version 2.2021). https://www.nccn.org/guidelines/guidelines-detail?category=3&id=1413

Table 1. List of commercial opioid analgesics for outpatients in Taiwan

Generic name	Dosage	Trade name (Example)	Dosage
Morphine	Tablets	Morphine sulfate® tablets "PPCD"	15mg/tablet
Morphine	Sustained release tablets	Morphine sulfate® sustained-release F.C. tablets "PPCD"	30mg/tablet
Morphine	Prolonged release capsules	MXL® prolonged-release capsules	60mg/capsule
Fentanyl	Transdermal patch	Opiodur® transdermal patch Fentanyl transdermal patch "PPCD"	1.375mg/patch 2.5mg/patch 5mg/patch
Fentanyl	Buccal soluble films	PAINKYL®fentanyl (buccal soluble films)	200 μg/tablet 600 μg/tablet
Fentanyl	Buccal tablets	Fentora® buccal tablets	100 μg/tablet 200 μg/tablet
OxyCodone	Immediate release capsules	OxyNorm® immediate-release capsules	5 mg/capsule
OxyCodone	Extended release tablets	OxyContin® controlled-release tablets	10mg/tablet 20mg/tablet

Generic name	Dosage	Trade name (Example)	Dosage
Buprenorphine	Transdermal patch	Transtec® transdermal patch	20mg/patch 30mg/patch
Buprenorphine	Sublingual tablets	Temgesic® sublingual tablets	0.2mg/tablet
Codeine	Tablets	Codeine® phosphate tablets	15mg/tablet 30mg/tablet
Tramadol	Capsules	Camadol® capsules Tramtor® capsules "PATRON" Painlax® capsules "PBF" Tramed® capsules "SWISS" Tramal® capsules Tramazac®capsules	50mg/capsule
Tramadol	Tablets (Fix-dose combination)	Traceton® film coated tablets Tramacet® F.C. tablets Apo-Tramadol® tablets Opicet® F.C. tablets Winpain® F.C. tablets	Tramadol 37.5mg+ Acetaminophen 325mg/tablet
Tramadol	Sustained release tablets	Muaction® sustained release tablets "lotus" Tramadol® retard tablets "U-CHU" Tramal® retard tablets Tramadol SANDOZ UNO® retard tablets	100mg/tablet

Chapte 1 1

Traditional Chinese Medicine Treatment for Cancer Pain

1. Introduction

Cancer pain is a common problem for cancer patients, primarily caused by tumors invading bones, organs, soft tissues, nerves, and blood vessels. In addition, the pain caused by cancer treatment methods (surgery, chemotherapy, radiation therapy, immunotherapy, targeted therapy, and cell therapy), as well as pre-existing diseases, are also included. The occurrence of cancer pain affects the patient's physical, psychological, and social aspects. In modern medicine, the concept of holistic care has been gradually incorporated into the treatment of cancer pain. In addition to caring for the patient's body and treating the disease, support and care for the patient's mental and emotional well-being, as well as support from family and society, are also included in the scope of care.

2. Concepts of traditional Chinese medicine for cancer pain

2.1. Cancer and tumors are referred to as "zheng jia ji ju" in Chinese medicine.

2.2. In the clinical treatment of cancer pain in traditional Chinese medicine, the patient's constitution is classified as either deficient or excessive based on the strength of their vital energy. The severity of the disease is determined based on the organs, meridians, tissues, and organs affected by the cancer. The nature of the pain (stabbing, bloating, dull, burning) and the factors that trigger the pain are also considered to distinguish the disease. Comprehensive analysis of the "characteristics of the disease" and the "factors of the individual" is used to diagnose and treat the condition.

2.3. In addition to using internal medicine, acupuncture, and external treatment methods in traditional Chinese medicine, other complementary therapies (acupressure, aromatherapy, and dietary therapy) are often used to enhance the patient's physical well-being, improve blood circulation, reduce pain, and improve the patient's quality of life.

3. Syndrome differentiation and treatment of traditional Chinese medicine for cancer pain

In clinical practice, traditional Chinese medicine also considers the different types of pain caused by tumors invading different organs, as well as the different side effects of surgical, chemotherapy, radiation therapy, targeted therapy, and other medical interventions.

4. Pharmacological treatment for cancer pain

4.1. In traditional Chinese medicine, the internal treatment of cancer pain involves first assessing the strength of the patient's vitality (zheng qi) and the severity of the cancer (xie qi) to determine whether an "attack method," "tonify method," or a combination of both should be used. Then, the treatment is based on the characteristics of the cancer pain and the patient's clinical symptoms.

4.2. Typically, during the early stages of a tumor when the body's vitality and immune system are stable, the focus of treatment is on the attack method. In the middle stages of cancer, the body's vitality is often compromised but can still fight against the cancer, so a combination of attack and tonify methods is used. In the late stages of cancer, the patient's vitality is weakened, and even the qi, blood, yin, and yang are deficient, so the focus of treatment is on the tonify method.

4.3. Common tonify methods include strengthening qi and spleen, nourishing and replenishing blood, tonifying kidneys and essence, and nourishing yin and moistening dryness. Common attack methods include regulating qi and promoting blood circulation, clearing heat and detoxification, softening hardness and dispersing masses, transforming phlegm and eliminating dampness, and using toxic substances to counteract toxins.

5. Acupuncture treatment for cancer pain

5.1. Acupuncture therapy in traditional Chinese medicine is widely accepted internationally due to its convenience, safety, effectiveness, and minimal side effects. The World Health Organization proposed 64 indications for acupuncture in 1996.

5.2. In recent years, there have been increasing clinical studies on acupuncture treatment for cancer pain, including common needle insertion, electroacupuncture, moxibustion, and ear acupuncture. Acupuncture can effectively alleviate pain caused by tumor obstruction of meridians and impaired qi and blood circulation. It can also effectively relieve pain caused by various surgeries, chemotherapy, and radiotherapy, reduce the use of analgesics, and improve the quality of life for cancer patients.

6. External treatment methods in traditional Chinese medicine for cancer pain

Traditional Chinese medicine believes that the basic pathological mechanism of cancer is "accumulation of cancer toxins, phlegm-blood stasis, and meridian blockage." The occurrence of cancer pain is mainly due to "pain caused by lack of nourishment" in the whole body and "pain caused by lack of circulation" in the local area. The key factor for local blockage is cold congealment, blood stasis, and phlegm accumulation. In advanced stages of cancer, patients often have weakened vital energy, weak spleen and stomach, and poor absorption of oral medications. At this time, external treatment methods can be used on the skin, meridians, and acupoints to directly target the affected area, which is simple and effective in relieving pain.

6.1. External treatment methods in traditional Chinese medicine for cancer pain

(1) Common external treatment methods in clinical practice include topical application of Chinese herbal medicine and fumigation with Chinese herbal liquids. Traditional Chinese medicine external treatment methods are often used in conjunction with conventional Western medicine three-ladder analgesic therapy. According to clinical research reports, they can effectively enhance the analgesic effect, reduce the use of analgesic drugs, and lower the incidence of adverse reactions.

(2) However, the medications used in traditional Chinese medicine external treatment methods are often strong in nature. They have strong toxic side effects and should only be used cautiously under the correct preparation and formulation by a medical practitioner. It is not recommended for the general public to attempt self-medication.

7. Other adjunctive treatments for cancer pain

In recent years, the treatment of cancer pain has expanded beyond the use of conventional pain medications to also consider the social, psychological, and spiritual aspects of patients, aiming to improve their overall quality of life. All healthcare professionals and patients are eager to seek other complementary treatments to alleviate cancer pain and improve the physical, mental, and spiritual suffering of patients. Common complementary therapies used in traditional Chinese medicine for treating cancer pain include acupressure, aromatherapy, herbal medicine, and dietary therapy.

8. Conclusion

In the treatment of cancer pain, traditional Chinese medicine first determines the strength or weakness of the patient's constitution, assesses the extent of organ and meridian involvement, and identifies the nature of the pain (stabbing, distending, dull, burning) and the factors that trigger the pain. Based on these factors, as well as the side effects experienced by patients after radiation and chemotherapy, a comprehensive diagnosis and treatment plan is developed. In addition to medication, acupuncture, and external treatments, other adjunctive therapies such as acupressure, aromatherapy, and medicinal diet are often used to enhance the patient's physical strength, improve blood circulation, alleviate pain, and enhance the patient's quality of life. Traditional Chinese medicine is an important therapeutic tool for physicians in the treatment of cancer pain.

Further Reading

1. 張伯臾主編。中醫內科學。知音出版社，台北。1989：p.401-415。
2. 陳鋭深主編。現代中醫腫瘤學。人民衛生出版社，北京。2003：p.113-124。
3. 王玉如、劉寨東。癌性疼痛的中醫治療研究進展。中國醫藥導報。2022：19(31):49-52.DOI:10.20047/j.issn1673-7210.2022.31.11。
4. 吳笑杰、蘭鋭軍、陸明。癌痛的中醫藥治療進展。新疆中醫藥。2021：39(02):98-100。
5. 劉寨東、王海媚、朱雪瑩、李瑤、劉藝。中醫藥治療癌痛的研究進展。四川中醫。2020：38(01):211-213。

6. 馬炳亞、朱世杰、蘆殿榮、陳楓、蘆殿香。近 5 年針灸治療癌性疼痛的國內外臨床研究述評。針灸臨床雜誌。2019：35(07):83-88。

7. 邊雙林、齊建帥、陳清、甄偉、王洪彬。癌痛針灸療法的臨床研究概況。中醫外治雜誌。2019：28(03):58-59。

8. Chen Zhong-jie, Guo Yu-peng, and Wu Zhong-chao. Observation on the therapeutic effect of acupuncture at pain points on cancer pain. Chinese acupuncture & moxibustion. 2008：28(4)：251-3。

9. 趙傳琳、任秦有、鄭瑾、吳昊、劉克舜。癌性疼痛的中醫外治法研究進展。中國中醫急癥。2021：30(04):740-744。

10. 俞文方、沈華江。中藥穴位貼敷治療肝癌癌痛療效觀察與護理體會。新中醫。2018：50(12):245-248。

11. 施敏、簡艷。芳香療法聯合三階梯止痛法對安寧療護患者難治性癌痛的臨床觀察。江西醫藥。2020：55(11):1672-1674。

12. 劉改香。情志護理配合穴位按摩對乳腺癌術后緩解癌痛及生活質量的影響。光明中醫。2022：37(21):3979-3981。

13. CramerDW, Kuper H, Harlow BL, and Titus-Ernstoff L. Carotenoids, antioxidants and ovarian cancer risk in pre- and postmenopausal women. Internaitonal Journal of Cancer. 2001：94(1): 128-34.

14. Pollard M, Wolter W. Prevention of spontaneous prostate-related cancer in Lobund-Wistar rats by a soy protein isolate/isoflavone diet. Prostate. 2000：45(2)：101-5.

Chapte 12

Self-Care for Patients

1. Introduction

1.1. When a patient experiences cancer pain, the resulting problems are not just limited to the pain itself. It also affects various aspects including physical, psychological (mental, emotional), social (family, friends, and community support), and spiritual aspects.

1.2. To effectively treat cancer pain, a multidimensional approach to holistic care must be taken into consideration. The dimensions of holistic care can be broadly categorized as care for the body (physical care and disease treatment), care for the mind (support for mental and emotional well-being), strengthening social support (strengthening family, friends, and community support), and strengthening spirituality (spiritual support).

1.3. Achieving effective cancer and pain treatment necessitates the support of the medical system. However, the proactive self-care and cooperation of patients with the treatments provided by the hospital are equally crucial. This chapter will elucidate how patients can actively engage in self-care and collaborate with hospital treatments, with the following key points:

(1) Understanding the planning and alignment with the treatment of cancer, cancer pain, and their management.

(2) Enhancing the overall health status of the body.

(3) Maintaining a positive emotional state.

(4) Strengthening the support for mental well-being.

(5) Reinforcing interpersonal (social) support.

2. Understanding the planning and alignment with the treatment of cancer, cancer pain, and their management.

2.1. Seek knowledge from healthcare professionals about cancer, cancer pain, its treatment, and self-care methods.

2.2. Follow the treatments provided by the hospital

(1) Tumor treatments: Surgical treatment, radiation treatment, chemotherapy, immunotherapy, hormone therapy, etc.

(2) Pain treatments: Non-medication treatment, medication treatment.

(3) Others: Rehabilitation treatment.

2.3. Additionally, consider using complementary therapies, alternative medicine, or integrative medical treatments such as massage, traditional Chinese medicine, acupuncture, and nutritional therapy.

2.4. Maintain a regular exercise routine to enhance physical health and promote mental well-being, which can effectively alleviate cancer pain.

2.5. Strengthen social support by seeking support from family, friends, and community resources.

3. Strengthening the body's health status

3.1. Maintain a regular exercise routine:

(1) Long-term (chronic) pain, including cancer pain, can cause limited range of motion in the limbs and joints, leading to stiffness and worsening pain. Moderate exercise can improve this type of pain.

(2) Proper exercise can strengthen and improve the function of body tissues and organs, including cardiovascular function, gastrointestinal function, sympathetic and parasympathetic system function. It can also normalize hormone secretion, improve mood, reduce depression, anxiety, and pain perception.

(3) Consult with a doctor and choose 1-2 light activities/ exercises based on physical condition. Gradually increase the duration and variety of activities/ exercises based on physical progress.

3.2. Maintain a healthy and balanced diet

Although the relationship between diet and pain is not very clear, certain foods can increase inflammation in the body and worsen pain. For individuals with chronic pain, including cancer pain, adjusting dietary habits can help alleviate pain and promote overall health. Recommendations include:

(1) Eat more fresh fruits, vegetables, whole grains, and fish. Consider following a Mediterranean diet and increase intake of probiotics.

(2) Reduce consumption of foods that can enhance inflammatory response, such as sugar, carbohydrates, fried foods, and food additives (e.g., monosodium glutamate).

(3) Limit consumption of overly sweet, salty, acidic, spicy, oily, and hot foods.

3.3. Follow the treatments provided by the hospital

(1) Tumor treatments: Surgical treatment, radiation treatment, chemotherapy, immunotherapy, hormone therapy, etc.

(2) Pain treatments: Non-medication treatment, medication treatment.

(3) Others: Rehabilitation treatments.

3.4. Additionally, consider using complementary therapies, alternative medicine, or integrative medical treatments such as massage, traditional Chinese medicine, acupuncture, and nutritional therapy.

4. Maintaining a positive mood

4.1. Reduce psychological (mental) stress.

(1) Long-term psychological stress and chronic pain (including cancer pain) are closely related, often forming a vicious cycle. Lowering psychological stress may help reduce pain.

(2) Simple slow deep breathing exercises (slow inhale, slow exhale) repeated several times can effectively reduce tension and improve mood.

(3) Sitting or lying down and leaning against a wall or pillar, relaxing and taking a moment to rest can also help reduce tension.

4.2. Balance work and rest

Pain can affect rest and daily work, disrupting normal routines. Like many others, patients may reduce contact with family and friends due to pain. Activities they used to enjoy may become difficult, leading to decreased enjoyment in life and increased anxiety and depression. Adjustments may need to be made in daily routines, such as:

(1) Moderately reduce workload and increase leisure and rest time.

(2) When necessary (in cases of persistent pain), it is okay to reduce workload and try to engage in activities that one enjoys. There is no need to feel guilty for taking care of oneself.

(3) Maintain a positive mindset and try to keep a cheerful mood.

4.3. Maintain good sleep quality

(1) Sleep quality can worsen when experiencing pain. Likewise, poor sleep quality can worsen pain, forming a vicious cycle.

(2) Poor sleep quality can also cause mental stress, anxiety, depression, and affect learning and sexual function.

(3) Methods for promoting good sleep quality include:

- Enhancing physical health and maintaining a positive mood (most important).
- Balancing work and rest, reducing life stress, and maintaining appropriate levels of exercise and a healthy diet.
- Creating a suitable sleeping environment: avoid placing a TV or phone in the bedroom. Keep the room dimly lit during sleep, ensure a comfortable bed and pillow, and maintain a comfortable room temperature.

- Maintain a regular sleep schedule: try to sleep and wake up at the same time every day to maintain the stability of our biological clock. Avoid staying in bed and try not to take naps during the day.
- Avoid consuming stimulating drinks such as tea, coffee, and alcohol before bedtime.
- Reading comforting books, listening to soothing music, and taking a warm bath before sleep can help with falling asleep and maintaining good sleep quality.
- Relaxation, deep breathing, meditation, and calming thoughts can help with falling asleep.
- If necessary, seek medical assistance for sleep medication or further investigation of factors that may disrupt sleep, such as sleep apnea or cardiovascular diseases, and receive appropriate treatment.

4.4. Stress release or enhance stress resistance

Prolonged internal stress can induce or worsen pain, as well as cause fatigue, memory decline, impatience, irritability, and increased sensitivity to pain. Reducing internal stress can help alleviate pain. Some methods to try include:

(1) Stress release:

- Review daily routines and see if they are filled with responsibilities and scheduled activities.
- Reorganize pending tasks according to one's physical abilities.
- Schedule time for exercise, leisure, and self-care.
- It is not necessary to do everything that is lower on the priority list, and there is no need to feel guilty about it.

- Practice relaxation techniques, such as:
  - ☆ Take a break from tasks, sit down, and do slow deep breathing exercises (slow inhale and exhale) several times.
  - ☆ Perform relaxation exercises for different muscle groups, alternating between contraction and relaxation during slow inhales and exhales.
  - ☆ Take moments to think about and appreciate the beauty in people, things, and surroundings.

(2) Enhance stress resistance:

Within one's capacity, expanding knowledge and skills can effectively enhance resilience to stress.

4.5. Use meditation and maintain a positive mindset

When we approach pain with a positive mindset, the severity of the pain decreases, and vice versa. Meditation is a method of using imagination to eliminate external distractions. Meditation can be divided into three types: mindfulness meditation, contemplative meditation, and guided imagery meditation.

(1) Mindfulness meditation: This meditation method focuses on being present in the moment and eliminating external distractions. Find a quiet place, sit in a comfortable position, close your eyes, focus on your breath, and take slow deep breaths for a few minutes to calm your emotions.

(2) Contemplative meditation: Similar to mindfulness meditation, but it is more like praying. Find a quiet place, move your hands to the painful area, imagine a mysterious power that can eliminate the pain through your hands, and imagine the pain disappearing and restoring health and vitality.

(3) Guided imagery meditation: Use your imagination to imagine yourself in a beautiful, comfortable, and elegant environment, temporarily escaping from the state of pain, and enjoying a small happiness. For example, imagine yourself in your favorite scenic spot, favorite room, garden, beach, beautiful scenery, and spend a happy vacation with your favorite person (people).

4.6. Skillful use of reframing

Pain can trigger many negative emotions, and negative emotions can exacerbate the feeling of pain. Therefore, reducing negative emotions can improve the perception of pain. You can use reframing to reduce your negative emotions. You can also ask a trusted friend or family member who is positive, and share your concerns and pain, listen to their opinions and suggestions, and shift the focus of life to things other than pain, such as completing important tasks that you usually want to do but haven't done, caring for family and friends, and helping those in need. This can enrich the sense of achievement and reduce the impact of pain, and dilute the pain. Change your mindset, maintain an optimistic and positive view of life.

5. Strengthening spiritual support

Cancer pain often causes chronic stress and gradually drains enthusiasm, hope, and happiness. Therefore, replenishing the soul can reverse this vicious cycle.

5.1. Enrich the personal spiritual account: Just like a bank account or a health account, people also have a joyful (happy) spiritual account in their hearts. If you can leave many joyful (happy)

memories deep in your heart, it will strengthen the power of your soul and help overcome physical and mental discomfort.

5.2. Always have a grateful heart: Meditate or express gratitude for people and things several times a day, which will help strengthen the power of the soul and emotions and gain support from others.

5.3. Cultivate a content and grateful heart: Take a little time every day to think about and appreciate the good people, things, and things around you. A content and grateful heart will change your mood and strengthen the power of your soul.

5.4. Support from religious beliefs: Religious beliefs can strengthen the spiritual support of individuals, including the power of hope and action, such as serving others, cultivating virtues, doing good deeds, gratitude, tolerance, etc.

5.5. Choose what you love, and love what you choose.

(1) Do what you enjoy doing, accomplish what you want to do, and benefit others: In a lifetime, there are countless choices to be made. When you have chosen your direction and goals, strive to achieve them, and remember to bring benefit to others, as it has a self-healing effect.

(2) Love your loved ones and empower yourself and others: Loving your loved ones is a given, but if you can also empower yourself and others, you will gain an infinite sense of fulfillment and confidence in your soul. At the same time, you will earn the respect and support of others.

6. Strengthening social (interpersonal) support

The support of family and friends is of great help to the treatment of cancer and cancer pain. Under appropriate circumstances, through the explanation of medical staff, let family and friends understand the impact of cancer and cancer pain and their care models, and support and assist patients. When necessary, seek assistance from social resources.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. National Cancer Institute (NIH). Cancer Pain (PDQ®)–Patient Version. https://www.cancer.gov/about-cancer/treatment/side-effects/pain/pain-pdq
3. Imperial College Healthcare NHS Trust. Controlling Your Pain with Opioids: Information for Patients, Relatives and Carers. 2018. https://www.imperial.nhs.uk/-/media/website/patient-information-leaflets/pain-management/controlling-your-pain-with-opioids.pdf?rev=6c770c7a0d564af4b4f24f68288b72fb
4. National Cancer Institute (NIH). Cancer Pain Control: Support for People With Cancer. 2019. https://www.cancer.gov/publications/patient-education/paincontrol.pdf

5. European Society for Medical Oncology (ESMO). Cancer Pain: An ESMO Guide for Patients. 2019. https://www.esmo.org/content/download/211169/3738827/1/EN-Cancer-Pain-Management-Guide-for-Patients.pdf
6. National Comprehensive Cancer Network (NCCN). Survivorship Care for Cancer-Related Late and Long-Term Effects. 2020. https://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf
7. American Society of Clinical Oncology (ASCO). Managing Cancer-Related Pain. 2020. https://www.cancer.net/sites/cancer.net/files/managing_pain_booklet.pdf
8. Cancer Society of New Zealand. Managing Cancer Pain. 2020. https://www.cancer.org.nz/assets/Downloads/Info-sheet-managing-cancer-pain.pdf

Chapte 13

Information for Family Members and Caregivers

1. Introduction

Having the support of family and friends can be very helpful in the treatment of cancer and cancer pain. In appropriate situations, with the explanation from healthcare professionals, family members and friends can understand the impact of cancer and cancer pain and the care required. They can provide support and assistance to the patient and seek social resources when necessary. Family members and caregivers should understand and assist in the following areas:

1.1. Understanding the patient's condition and the treatment they will receive.

1.2. Assisting the patient in receiving treatment.

1.3. Ensuring the safety of the patient's medication.

1.4. Assisting patients in promoting physical and mental health and releasing stress.

1.5. Self-relief and enhancing resilience for caregivers.

For these issues, family members and caregivers should consult and discuss with healthcare professionals.

2. Understanding the patient's condition and the treatment they will receive

2.1. Causes of cancer pain.

(1) What are the causes of cancer pain?

(2) What acute (short-term) pain is associated with cancer?

(3) What chronic (long-term) pain is associated with cancer?

2.2. Assessment of cancer pain

(1) How severe is the pain?

(2) Does the pain affect the patient's daily life?

(3) Are there any urgent situations that require immediate attention?

2.3. Care methods and options for cancer pain

(1) What is the philosophy of caring for cancer pain?

(2) What are the goals of caring for cancer pain?

(3) What are the different care methods for cancer pain?

3. Assisting the patient in receiving treatment

3.1. Tumor treatment:

(1) What are the different methods of tumor treatment and how to choose?

(2) Introduction and selection of surgical treatment, radiation therapy, chemotherapy, immunotherapy, hormone therapy, and other treatments.

3.2. Nerve block:

(1) What is the principle behind nerve block procedures?

(2) Commonly used nerve block procedures and their side effects.

3.3. Rehabilitation therapy:

(1) What are the goals of rehabilitation therapy?

(2) What are the different treatment options and their side effects?

4. Ensuring the safety of the patient's medication

4.1. Non-opioid analgesics:

(1) When can non-opioid analgesics be used?

(2) What precautions should be taken when using them? What are the side effects?

4.2. Opioid analgesics:

(1) When is it necessary to use opioid medications for pain relief?

(2) What precautions should be taken when using them? What are the side effects?

(3) Addiction? abuse? misuse?

4.3. Traditional Chinese medicine-related therapies:

(1) Introduction to traditional Chinese medicine-related therapies.

(2) Efficacy? side effects? precautions?

Note: The above information should be discussed and consulted with healthcare professionals.

5. Assisting patients in promoting physical and mental health and releasing stress

5.1. Methods of psychological care and spiritual support

5.2. How patients can take care of themselves: physical rehabilitation, psychological and emotional recovery, enriching their spirituality, strengthening social support?

6. Self-relief and enhancing resilience for caregivers

6.1. Methods of promoting physical and mental health?

6.2. How to do relaxation training and mindfulness-based stress reduction?

6.3. Seeking the power of support?

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145

2. National Cancer Institute (NIH). Cancer Pain (PDQ®)–Patient Version. https://www.cancer.gov/about-cancer/treatment/side-effects/pain/pain-pdq

3. Imperial College Healthcare NHS Trust. Controlling Your Pain with Opioids: Information for Patients, Relatives and Carers. 2018. https://www.imperial.nhs.uk/-/media/website/patient-information-leaflets/pain-management/controlling-your-pain-with-opioids.pdf?rev=6c770c7a0d564af4b4f24f68288b72fb

4. National Cancer Institute (NIH). Cancer Pain Control: Support for People With Cancer. 2019. https://www.cancer.gov/publications/patient-education/paincontrol.pdf

5. European Society for Medical Oncology (ESMO). Cancer Pain: An ESMO Guide for Patients. 2019. https://www.esmo.org/content/download/211169/3738827/1/EN-Cancer-Pain-Management-Guide-for-Patients.pdf

6. National Comprehensive Cancer Network (NCCN). Survivorship Care for Cancer-Related Late and Long-Term Effects. 2020. https://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf

7. American Society of Clinical Oncology (ASCO). Managing Cancer-Related Pain. 2020. https://www.cancer.net/sites/cancer.net/files/managing_pain_booklet.pdf

8. Cancer Society of New Zealand. Managing Cancer Pain. 2020. https://www.cancer.org.nz/assets/Downloads/Info-sheet-managing-cancer-pain.pdf

Chapte 14

Treatment of Cancer Pain in Children

1. Introduction

1.1. Children (patients) referred to in this document are those aged 0 ～ 18 years old, and cancer pain will be referred to as pain.

1.2. The perception and understanding of pain is highly individual and emotional, especially in children.

1.3. Young children often cannot clearly describe the location and characteristics of their pain.

1.4. Behavioral responses to pain also vary with age, gender, culture, and economic status.

1.5. In medical practice, the recognition, assessment, and treatment of pain in children need to be strengthened compared to adults.

1.6. The content of this chapter mostly pertains to medical services provided in hospitals, but it can also be used as a reference for pediatric patients, their families, and caregivers.

2. Causes of cancer pain in children

2.1. Caused by invasion of the body's tissues and organs by cancer (tumors): Common childhood cancers include neuroblastoma, brain tumors, meningiomas, leukemia, lymphoma, germ cell tumors, osteosarcoma, soft tissue sarcomas, etc.

2.2. Caused by diagnostic and examination procedures: Such as blood sampling, intravenous injections, intramuscular injections, spinal taps, organ biopsies, etc.

2.3. Caused by cancer treatments: Such as surgery, chemotherapy, radiation therapy, nerve block procedures, and other treatments.

2.4. Caused by other factors: Such as age (young children have stronger pain responses), gender (in general, females have more sensitive pain perception), psychological and mental conditions (anxiety, depression, fatigue, sleep disorders), culture (interpretation of pain), race, education, interpersonal relationships (classmates, friends), family economic status, etc.

3. Assessment of cancer pain in children

3.1. Pain

(1) Hospitals use different assessment tools based on the child's age. For example, for infants aged 0 ～ 3 years, facial expressions, limb movements, sleep patterns, crying, ease of soothing, and response to touch are observed.

(2) Assess the severity of pain.

(3) Assess factors that exacerbate or relieve pain.

(4) Assess the effectiveness of analgesics or pain management techniques.

(5) Assess the side effects of pain medications.

3.2. Assessment of physical (body) function

(1) Assess the child's ability to walk, perform daily activities, range of motion in limbs and joints, breathing condition, ability to cough, etc.

(2) Assess the physical functional limitations caused by pain and the improvement after treatment.

(3) Record details for reference in subsequent treatment.

3.3. Assessment of family and friend support

(1) Assess the child's psychological (mental, emotion) state, interpersonal relationships (classmates, friends), and family support.

(2) Discuss cultural barriers, communication barriers, impacts due to gender or age, history of substance abuse (adolescents), etc.

3.4. Setting individual pain treatment goals

(1) Based on the child's physical, psychological, and family support, set achievable pain relief goals.

(2) Effective pain relief will enhance the child's recovery ability.

4. Treatment of cancer pain in children

The following are common medical interventions that can be provided for reference to the child and their caregivers:

4.1. Children, parents, and caregivers should understand the relevant knowledge and techniques related to the prevention and treatment of cancer pain, including:

(1) Causes of pain, treatment methods, use of medications, non-pharmacological pain relief methods, and prevention and treatment of side effects.

(2) Before treatment begins, it may be necessary to explain again in a focused manner, and during treatment, the presence of parents or caregivers may be required. This can strengthen the psychological well-being of the child, parents, and caregivers, and reduce the child's fear and parents' and caregivers' anxiety.

4.2. The goal of child cancer pain treatment is to relieve pain, improve physical (body) abilities, and enhance quality of life (emotion, a sense of pleasure).

4.3. The following tumor treatments can also help alleviate pain:

(1) Surgical treatment

(2) Radiation therapy

(3) Chemotherapy

(4) Nerve block

(5) Other treatment modalities targeting the tumor or its complications

4.4. Treatment with analgesic medications: Various types of

analgesic medications should be prescribed by a physician according to the patient's condition.

4.5. Rehabilitation therapy: Moderate physical activity can help alleviate pain. Additionally, treatment can be targeted at the causes or consequences of pain, such as physical therapy, occupational therapy, speech therapy, and physical activities.

4.6. Psychological and spiritual care:

(1) Psychological and spiritual care can reduce the child's fear and parents' and caregivers' inner worries.

(2) The child's perception and response to cancer pain are greatly influenced by the parents' and caregivers' cognition and emotions (such as catastrophic thoughts, suffering, and behavior). Therefore, psychological and spiritual care should be provided to both parents/caregivers and the child.

4.7. Maintain the child's normal life as much as possible, including school activities, sleep, interactions with peers (friends), exercise, spiritual aspects, and a happy childhood.

4.8. Additionally, children have a significant fear of injections. The treatment strategies are as follows:

(1) Apply a local anesthetic to the skin 30 minutes before injection to block the pain.

(2) For infants under one year old, feed them sucrose solution or breast milk 2 minutes before injection, as this can help calm the child.

(3) Place the child in a comfortable and safe position, such as being held by parents or sitting next to them.

(4) Distract the child's attention by providing preferred

items based on their age, such as toys, online games, watching TV, listening to music, or others.

Further Reading

1. 衛生福利部食品藥物管理署。癌症疼痛照護及成癮性麻醉藥品使用參考手冊。衛生福利部。2021。http://www.fda.gov.tw/TC/publicationsContent.aspx?id=145
2. Schulte FSM, Patton M, Alberts NM, et al. Pain in Long-Term Survivors of Childhood Cancer: A Systematic Review of the Current State of Knowledge and a Call to Action from the Children's Oncology Group. Cancer. 2020;127(1):35-44.
3. Canadian Cancer Society. Pain in Children. https://www.cancer.ca/en/cancer-information/cancer-type/childhood-cancer-information/pain-in-children/?region=nu
4. Tutelman PR, Chambers CT, Stinson JN, et al. Pain in Children with Cancer: Prevalence, Characteristics, and Parent Management. Clin J Pain. 2018;34(3):198-206.

藥求安全有效 FDA 食在安心健康

Handbook of Cancer Pain Care (Public Version)

Publishing agency : Taiwan Food and Drug Administration
No. 109, Ln. 130, Sec. 1, Academia Rd., Nangang Dist.,
Taipei City 115021 , Taiwan (R.O.C.)
http: //www.fda.gov.tw
TEL：(02)2787-8000

Publisher : Shou-Mei Wu

Reviewer : Yu-Roo Chu, Chin-Hsu Chang, Shi-Wern Chien,
Chi-Hui Cheng, Pei-Ling Chuang

Editorial board : Jhi-Joung Wang, Chung-Ching Chio ,Hung-Jung Lin,
Yu-Feng Tian, Hsiu-Chin Chen, Ying-Wei Wang,
Tsung-Ying Chen, Chih-Cheng Chien, Chun-Chang Yeh,
Huang-Ping Yu, Yeu-Sheng Tyan, Shaw-Yeu Jeng,
Yu-Lin Wang, Jen-Yin Chen, Chin-Chen Chu,
Pei-Hsin Kao, Wan-Ting Hsieh, Yin-Hsun Feng,
Yao-Chin Hsu, Hui-Chen Su, Ya-Ting Ke

Publication date : December, 2023

Edition : First Edition