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The process of physiotherapy in patients treated for colorectal cancer

Agnieszka Filarecka[1,2], Maciej Biernacki[3], Michał Jęchorek[4], Łukasz Leksowski[5], Michał Małek[6], Robert Tysowski[6], Karolina Molek[6], Magdalena Tysowska[7], Karolina Szymura[7]

Collegium Medicum, UMK Bydgoszcz, Chair of Oncological Surgery
State School of Higher Education in Gniezno, Institute of Health Science
Collegium Medicum, UMK Bydgoszcz, Chair and Department of Anatomy
TOTU Addiction Therapy Center in Karnice
Collegium Medicum, UMK Bydgoszcz, Chair and Clinic of Rehabilitation
St. Celestine Society, Mikoszow
R-med, Wroclaw
Tarnów School of Higher Education, Faculty of Applied Sciences

Corresponding author:
mgr Agnieszka Filarecka
Collegium Medicum, UMK Bydgoszcz, Chair of Oncological Surgery
Ul. Izabeli Romanowskiej 2, 85-796 Bydgoszcz, Poland
Tel. 503074346
e-mail: aga.filarecka@gmail.com

Summary

Cancer is the cause of almost 1/3 of premature deaths worldwide. The problem of cancer incidence is a global problem. Better and better medical care and modern methods of treatment make the effects of treatment high. The invasiveness of the procedures, introducing systemic methods, causes traumatization of tissues, which causes disability.

The paper presents the proposed method of physiotherapeutic treatment in a patient treated for colorectal cancer.

A review of the available literature and own experiences were used for the study

It can be concluded from the available literature that in the case of cancer treatment, treatment should be interdisciplinary and the use of physiotherapy is necessary at every stage of treatment.

Keywords: disability, oncology, rehabilitation

Introduction

Cancer accounts for approximately 30% of all premature deaths from NCDs in adults aged 30-69 years, and is a major health problem for all populations around the world, regardless of wealth or social status. According to a WHO report, 18.1 million people worldwide had cancer in 2018, and 9.6 million died from this disease [1].

Colorectal neoplasms are the third most common neoplasm in Poland in both sexes, occurring more often in men. In the female population, the growth rate of standardized coefficients slowed down after 1995 [1].

It is estimated that 1.08 million people with cancer live in Poland. New cases of all malignant neoplasms in Poland amount to 165,000, and the number of deaths due to cancer is reported in 99,600 people [2].

The effectiveness of treating many types of cancer is increasing, which is associated with the progress of medicine, but at the same time with the implementation of tissue traumatization through surgery or the use of radio or chemotherapy methods, which are not indifferent to the body, including the musculoskeletal system [3]

In the last year of 2020, there is an apparent decline in cancer incidence associated with the limited availability of screening tests, which was associated with epidemiological restrictions caused by the introduction of the Sars CoV-2 virus pandemic state [2].

The progress of medicine has contributed to the extension of the life of cancer patients also in the case of terminally ill patients, which is related to the emergence of a greater percentage of disabled patients [4]. Despite the use of minimally invasive, sparing surgical procedures used in the treatment of colorectal cancer, the tissues are traumatized in the form of cutting the skin, subcutaneous tissue, muscles, which limits the patient's movement, and thus a number of consequences negatively affecting the functioning of all organs.

The use of invasive or sparing treatment affects the appearance of permanent or temporary disability. Therefore, cancer treatment should be interdisciplinary in conjunction with the complementary action of a number of specialists, including a psychologist, dietitian, and physiotherapist or occupational therapist. Physiotherapy or, in a broader sense, rehabilitation is the most effective method of preventing functional disorders after surgical treatment of neoplasms, or after non-invasive treatment, which indirectly affects muscle structures, such as chemotherapy or radiotherapy [5].

The use of physiotherapy in oncology is not very common due to the emerging doubts about stimulating neoplastic cells to form by physical stimuli [6]. However, the kinesiotherapeutic possibilities are forgotten, ie the use of movement therapy or the use of neutral physical stimuli that do not have a negative or unknown effect on neoplastic cells [7].

Review of the literaturę

It is now known that exercise positively influences the prevention of functional disorders after treatment and the restoration of psychophysical fitness [6].

A patient referred to oncological treatment should start physiotherapy at the same time, so that before a surgical procedure or the implementation of non-invasive treatment, he has the opportunity to prepare the muscle structures for the stress that he will be subjected to during surgery or chemotherapy, radiotherapy, so as to reduce the possibility of complications related to tissue traumatization and forced mobility restriction [8].

By regularly improving the patient before the procedure, it is possible to have a beneficial effect on increasing the efficiency related directly to [5, 7]:

- Increasing the mobility of the joints
- Improvement of muscle strength
- Improving tissue elasticity

In addition, indirectly, physical exercise affects, among others:

- Increasing the efficiency of the circulatory system,
- Increasing the efficiency of the respiratory system

•Improving bone mineralization,

• Improving the work of the nervous system.

Depression, which may arise as a result of fatigue associated with the treatment of neoplastic diseases, will contribute to the appearance of psychosomatic symptoms in the patient. The use of physiotherapy and regular exercise has a beneficial effect on the mental state by improving mobility, reducing anxiety and improving the efficiency of the nervous system associated with exposure to stress [9].

Use of physiotherapy in patients treated for colorectal cancer.

Physiotherapy is used in every stage of neoplastic disease treatment, also in the perioperative period or in the period of adjuvant treatment such as radio and chemotherapy. The beneficial effect is mainly noticed after [5,7]:

• surgical treatment of neoplastic changes

• use of system methods,

• in patients with lymphatic swells,

• in patients with limited joint and tissue mobility,

• in patients with disorders of the nervous system,

• in patients with impaired respiratory function,

• in patients with limited fitness and physical capacity,

• in patients to prevent and relieve pain,

• in terminal cancer patients.

Division due to planned oncological treatment

Due to the patient's condition and the planned surgery or non-invasive treatment, physiotherapy can be divided into:

1. The pre-treatment phase - before the planned surgery, implementation of non-invasive methods

2. Periprocedural phase - during the surgical or systemic treatment phase

3. Post-treatment phase - recovery phase or palliative care

Depending on the phase of the patient, appropriate treatments should be implemented.

In the pre-treatment phase, the use of physiotherapy includes:

• improving the overall efficiency of the cardiovascular and respiratory system,

• improving the range of joint mobility,

• improvement of muscle strength and tissue elasticity,

• preventing the onset of depression.

In this phase, general conditioning exercises aimed at engaging as many muscles as possible, breathing exercises and stretching exercises should be used. This phase should also include training in exercises that will be performed in the periprocedural phase, so that the patient is prepared to perform exercises that in the first days of treatment, especially invasive - surgical treatment, are sometimes neglected due to the appearance of pain, surgical stress, bad well-being caused by systemic treatment, so the new stimuli at this point are not beneficial for the patient and will be reluctant to participate in new, initially difficult exercises. However, if he learns about these exercises in pre-treatment conditions, he will be able to perform them [10, 11].

In the periprocedural phase, the main goal of physiotherapy is:

Improving the quality of breathing - implementing breathing exercises, improving the quality of circulation - implementing quick upright positioning of the patient, improving tissue trophic - quick mobilization of the patient and introducing to everyday activities.

At this stage, the most important thing is to learn how to self-serve the patient, so that he can participate in everyday activities such as using the toilet, walking independently or changing transfers as soon as possible.

At this stage, physiotherapy consists of breathing exercises, self-service exercises, scar mobilization in the case of surgery [12, 13].

In the postoperative phase, in the event of completion of the main treatment, physiotherapy consists in restoring the fitness before the surgery or the systemic treatment used. The elements of physiotherapy used are aimed at restoring:

• Muscular strength,
• Tissue flexibility,
• Range of mobility in the joints,
• efficiency of the respiratory and circulatory systems,
• Scar mobilization in the event of surgery.

In this phase, as in the initial phase, general conditioning exercises, breathing exercises, cardiovascular training and scar mobilization are used.

In all phases of physiotherapy, the patient should have the level of physical exertion adjusted and controlled by measuring the heart rate, blood pressure, and measurement of saturation. In the event of disturbances in the parameters of the circulatory and respiratory system, the physiotherapy plan should be modified so that it is safe for the patient [14].

In the case of the terminal phase, when the basic treatment of cancer is based on prolonging the patient's survival, physiotherapy is important, first, in order to keep the patient in the longest possible psycho-physical condition. At this stage, the improvement consists in implementing everyday activities, self-service exercises, breathing exercises, learning to change positions from lying down to sitting, from sitting to standing and changing positions, so that the patient is independent [5].

In planning physiotherapy, use ICF - (*International Classification of Functioning disability and health).* By collecting an interview, conducting a subjective examination, performing functional tests, the patient's condition, ailments, and limitations resulting from disease entities should be identified by codes. Putting the correct hypothesis is necessary to implement the correct improvement plan [15].

After the therapy, the hypothesis should be verified, the previously performed tests should be re-performed and the rehabilitation therapy plan modified in cases requiring modification resulting from the first hypothesis.

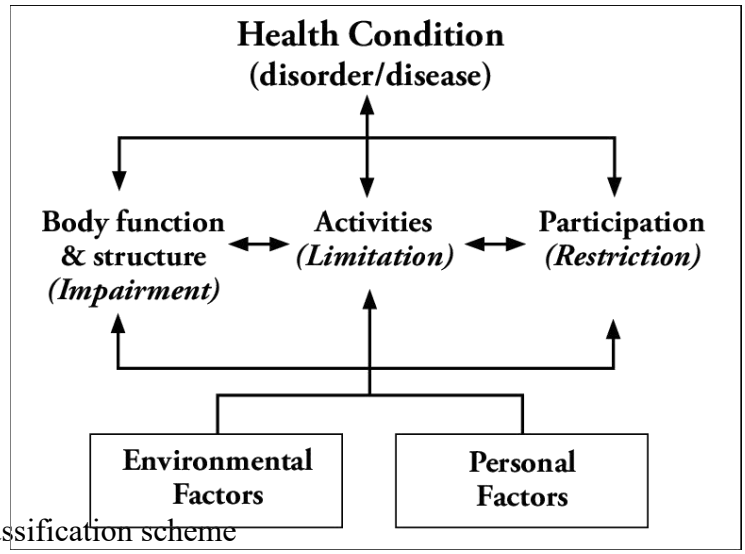

Figure 1. ICF - classification scheme

Conclusions

1. Physiotherapy is a necessary part of the interdisciplinary treatment of colorectal cancer
2. The implementation of physiotherapy through rehabilitation should take place in the phase before the main treatment
3. In the periprocedural period, physiotherapy should be continued, considering the parameters of the circulatory compress.
4. The treatment improvement plan should be based on the ICF classification
5. Determining the improvement plan should be based on functional tests.

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