

POSTOPERATIVE RECOVERY OF THE PATIENT WITH COXARTHROSIS USING KINETIC MEANS

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Abstract

This paper aims to present the benefits of practicing physical exercises for the postoperative recovery of patients with coxarthrosis. The paper will also address practical aspects, such as assessing physical abilities, adapting equipment and motivating patients to practice physical exercises..

Physiotherapy plays an essential role in postoperative recovery, helping patients regain functionality and mobility of the hip joint. The use of kinetic means not only accelerates recovery, but also reduces the risk of postoperative complications, such as deep venous thrombosis, joint stiffness, or muscle atrophy.[2,9] The personalized physiotherapy program can include movement exercises, strengthening the affected muscles and improving coordination and balance.[6,7]

In conclusion, we can say that we have managed to show how effective the application of physical exercises is for the recovery of patients with coxarthrosis.

Introduction

Physical therapy, as a discipline that uses movement to improve health and facilitate healing, has its origins in the oldest known societies. Since ancient times, both physical exercise and movement have been considered essential for maintaining health and for the recovery of individuals affected by various conditions.[1]

Coxarthrosis, also known as hip osteoarthritis, is a degenerative condition that affects the quality of life of a significant number of people, especially among the elderly population. Characterized by the progressive deterioration of the articular cartilage of the hip joint, coxarthrosis is one of the main causes of pain and long-term disability. In many cases, the final recommended treatment is surgery, such as hip arthroplasty, to restore mobility and reduce pain.[3,4,8]

Physical therapy plays an essential role in post-operative recovery, helping patients regain functionality and mobility of the hip joint. The use of physical therapy not only speeds up recovery, but also reduces the risk of post-operative complications, such as deep vein thrombosis, joint stiffness, or muscle atrophy.[10] A personalized physical therapy program may include range-of-motion exercises, strengthening of affected muscles, and improving coordination and balance. In the

case of coxarthrosis, the joint increasingly loses its place, bone deposits form along the edges, and attrition particles cause repeated pain.[5] The loss of cartilage results in increased stiffness of the joint. At the same time, pain appears, initially associated with movement after periods of inactivity and stress. Pain occurs at night and in states of rest, which leads to an increasing limitation of the walking range and, later, that is, ultimately, to a reduction in the quality of life.

Material-method

Hypothesis of the work

This work starts from the following hypothesis. Using physical exercises, can we combat this disease and reintegrate the affected person into society, using kinetic means as diverse and as concrete as possible?

Coxarthrosis is one of the most common degenerative joint diseases, affecting especially the elderly population. This condition has a significant impact on quality of life, causing pain and limiting mobility. Studying this condition and recovery methods is therefore essential to improve treatments and the quality of life of patients.

Surgical intervention, such as total hip arthroplasty, is often necessary to relieve severe symptoms of coxarthrosis. However, the long-term success of these interventions depends largely on a well-structured and effective recovery program. Postoperative recovery is crucial for restoring normal joint function and preventing complications.

Physical therapy plays a central role in the postoperative recovery process. Through the use of specialized physical exercises and therapeutic techniques, physical therapy helps restore mobility, strength, and functionality of the affected joint. The detailed study of kinetic means and their application in the recovery of patients with coxarthrosis is an essential component in the education and professional practice of physical therapists.

By investigating and applying effective physiotherapy methods in the recovery of patients with postoperative coxarthrosis, this paper aims to contribute to improving their quality of life. Identifying and implementing personalized and effective recovery strategies can significantly reduce pain, improve mobility, and ultimately lead to a faster reintegration of patients into daily activities.

The choice of this topic is also motivated by its relevance from both an academic and practical point of view. Studying the postoperative recovery of patients with coxarthrosis makes a valuable contribution to the specialized literature and provides useful data and information for healthcare professionals. This work can serve as a reference for students, researchers and practitioners in the development and implementation of effective postoperative recovery programs.

Therefore, the choice of this topic is one of great relevance and importance, bringing significant benefits both to patients and to the scientific and medical community.

Purpose and objectives of the work

The main purpose of this work is to evaluate the effectiveness of kinetic methods in the postoperative recovery of patients with coxarthrosis. By analyzing and implementing various physiotherapy techniques, the work aims to provide a theoretical and practical framework for optimizing the recovery process and improving the quality of life of patients affected by this condition.

Objectives of the Work:

- Analysis of the specialized literature on coxarthrosis and treatment methods
- Study of the principles and stages of postoperative recovery
- Evaluation of the kinetic means used in postoperative recovery
- Conducting a case study
- Formulation of conclusions and recommendations

Case presentation.

The study was conducted on a single female person, L A.

Age: 45 years

Body weight: 53 kg

Field of activity:

Diagnosis: Other primary coxarthrosis, dysplastic coxarthrosis on the left. Hartofilakidis type A.

Disease evolution: with improvement

Particularities: none

Patient's condition after discharge: satisfactory

Place of development and material conditions.

The patient's evaluation and the development of physiotherapy methods took place at her home over a period of 12 weeks.

Duration and stages of work

I. Initial assessment of the patient

□ Anamnesis

- Onset of the disease (acute, subacute, insidious)
- Age of onset
- Triggering factors (workplace, obesity, poor posture)
- General manifestations (pain, functional impotence, difficulties in performing ADLs)

□ Objective assessment

- Constitutional type
- General attitude
- The way in which the movement is performed

- Gait
- Balance and coordination in static and dynamic

- Muscle hypotonia

☐ Visual analogue scale (VAS) - is a subjective method by which the patient's pain was evaluated on a scale from 1 to 10. The patient chose a number that was equivalent to her current pain.

☐ Joint balance - is performed using a goniometer or tape measure to evaluate joint amplitude.

☐ Muscle testing - represents a set of manual examination techniques used to evaluate the strength of each muscle or muscle groups.

Objectives of the recovery program:

Combating postoperative pain. Preventing complications that may occur postoperatively. Toning the hip muscles. Performing ADLs. Improving the amplitude of movement. Strengthening postural control. Social reintegration. Preventing relapses.

Stage I

Massage. Postoperative supine position. Isometric and isotonic contractions for the lower limb muscles. Active or active-passive mobilizations of the lower limbs. Performing weight transfers from one leg to the other. Excluding rotational movements in the operating segments. Walking, with progression

Stage II

Thigh flexions from the d.d. Thigh flexions from the d.d. in three alternative directions. Bringing the knees alternately to the chest. Shell. Knee rotations from sitting position. Thigh extensions. Thigh abductions. Bends

Stage III

Thigh adductions with resistance band from d.d. Thigh flexions with weight. Knee extension from d.d. Thigh abductions with resistance band. Thigh extensions with resistance band. Sliding with resistance band. Partial squats. Climbing, descending stairs

- **Patient evaluation after the physiotherapy program**
- **Presentation of results**
- ☐ **Joint assessment**

Table 1. Hip movements assessed by joint balance, initial/final results

	Evaluated movements	Initial result	Final results
		left foot	left foot
Hip joint	Curl	64	94
	Extension	12	17
	Abduction	22	32
	Adduction	18	19
	External rotation	22	34
	Internal rotation	20	33

□ Muscle balance

Table 2 Muscle groups tested by muscle balance, initial/final results

Muscle groups tested	The movement made	Initial results	Final results
Iliopsoas, rectus femoris	Flexion	3	4
Gluteal muscles	Extension	3	5
Gluteus medius, tensor fascia latae.	Abduction	3	4
Adductor muscles	Adduction	3	4

Results and discutions

The interpretation of results and dynamics of evolution are represented in the following diagrams:

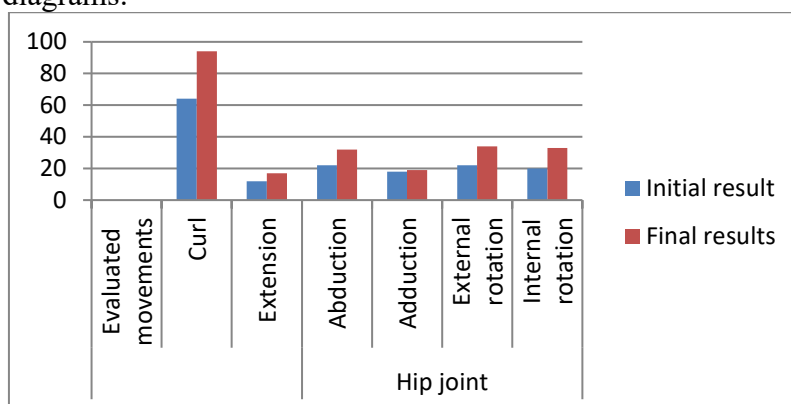


Fig. 1. Dynamics of muscle balance evolution

Following the final testing, a considerable increase in the amplitude of flexion-extension, abduction-adduction movement is noted, but not such a good result for the internal-external rotation movement.

Table 3 Muscle balance evolution

Muscle groups tested	The movement made	Initial results	Final results
Iliopsoas, rectus femoris	Flexion	3	4
Gluteal muscles	Extension	3	5
Gluteus medius, tensor fascia latae.	Abduction	3	4
Adductor muscles	Adduction	3	4

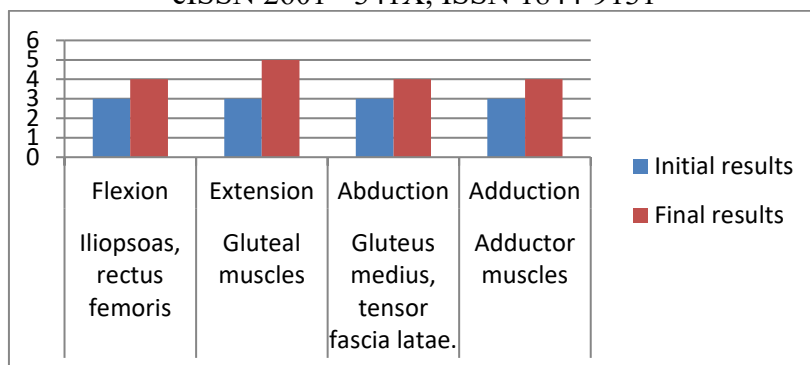


Fig. 2. Dynamics of muscle balance evolution

After applying the kinetic program, the patient experienced an increase in the strength of the lower limb muscles. The final evaluation demonstrates this by the fact that the patient manages to mobilize her segment in full amplitude, against a medium resistance value, obtaining F4.

The above data show that following the application of kinetic methods, the patient's pain decreased considerably on the VAS scale from an initial value of 7, finally reaching 1.

Socio-familial and professional reinsertion

Socio-familial and professional reinsertion is an essential aspect of the recovery process for patients who have undergone surgery for coxarthrosis and followed a physiotherapy program. This involves restoring the ability to actively participate in social, family and professional life, ensuring the best possible quality of life.

Discutions

The aim of this study was to evaluate the effectiveness of kinetic means in the postoperative recovery of patients with coxarthrosis. The results obtained demonstrated a significant improvement in joint mobility and a reduction in pain, compared to traditional recovery methods.

The study showed that patients who followed a recovery program based on kinetic means had a significant improvement in joint function and a reduction in pain. We used various kinetic methods, including flexibility exercises, muscle strengthening and joint mobilizations. Flexibility exercises contributed significantly to increasing the amplitude of movement, while muscle strengthening had a major impact on joint stability and functionality.

Patients who followed a combined flexibility and muscle strengthening program achieved the best results, highlighting the importance of a diversified recovery program. In addition, joint mobilizations proved effective in reducing pain and improving mobility.

Conducting this study was a valuable experience, which allowed me to understand in depth the importance of active recovery and the use of kinetic means in the treatment of coxarthrosis. I learned how essential it is to personalize recovery programs according to the individual needs of patients and I observed the positive impact that a well-planned recovery can have on their quality of life.

The patients' feedback was extremely valuable, helping me to adjust and improve the recovery program throughout the study. These experiences will guide my future practice as a physiotherapist and will help me provide high-quality care to my patients.

Conclusion

In conclusion, the results of my study demonstrated that kinetic means are effective in the postoperative recovery of patients with coxarthrosis, contributing to the improvement of joint function and the reduction of pain. Although the study has certain limitations, the conclusions provide valuable insights for clinical practice and future research directions.

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