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RECOVERY FROM HIP INSTABILITY

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Abstract

Method and materials: The presented study is a prospective study (clinical statistic and epidemiologic), controlled randomized in which 42 evaluated patients were monitored (females and males in a 2,3/1 ratio), treated and monitored in the Medical Rehabilitation Department” of the Regional Hospital Braila. During October 2011-May 2014 individuals diagnosed with hip instability on the base of coxarthrosis and hip endoprosthesis were randomly split into 2 groups of 21 subjects each : Group A (arthrosic instability) and Group B (Endoprosthetic patients).

Conclusion: The compared groups were homogenous, from a demographic perspective. Patients responded well to the applied techniques, there mobility and muscular strength improved, there were no patients presenting with side-effects (increase in pain, tiredness) following recovery treatment. As seen in the comparative study, the recovery method through massage ,kineto therapy ,has a very important role in their recovery from hip instability regardless of ethiology and associated flaws, applied for improving the walking ability and quality of life, as well as personal independence.

Key words: *instability,endoprosthesis,recovery,kinetic program.*

INTRODUCTION:

In the general context in which the hip pathology evolves with an amazing progress , patients are exposed in a direct manner to important modifications from the following perspectives: functional, morphological, physiological , psychological, behavioural etc. . The impact of the medical studies published in the past years focused on the efficiency of surgical interventions with the purpose of implanting hip endoprosthesis, on the materials used in the production of endoprosthesis, and on the approach of surgery conduction. On the other hand, unfortunately, there have been less studies conducted on the functional re-education of hip instability. As proof of this lack of studies, there are no standardised recovery programmes for endoprosthetic patients. Speciality literature brings only indications as to the time of regaining balance depending on the type of implanted endoprosthesis, to the day the movements and gestures which are permitted or interdicted or general referances regarding re-education of walking.

THE HYPOTHESIS OF THE PAPER:

We consider that using re-education exercise of the degree of balance of inferior members ,together with a selective education of the hypotonic muscles will determine a correct re-education of hip instability during walking which would eliminate the healthy or pathological hip overload or attrition of the prosthesis.

OBJECTIVES:

In the current study we propose to analyze the defunctional and biomechanical deficits of the instable hip with the purpose of composing individualised therapeutical programmes in relation to functional matter of each patient with hip pathology ,arthrosis ,endoprosthesis

MATERIALS AND METHODS:

The presented study is a prospective study (clinical statistic and epidemiologic), controlled and randomized in which 42 evaluated patients were monitored (females and males in a 2,3/1 ratio), trated and monitored in the Recovery Center “S.C Fiziter SRL” and “ The Medical Rehabilitation Department” of the Regional Hospital Braila. During October 2011-May 2014 individuals diagnosed with hip instability on the base of coxarthrosis and hip endoprosthesis were randomly split into 2 groups of 21 subjects each : Group A (arthrosic instability) and Group B (Endoprosthetic patients). Criterias: Clinically and paraclinically investigated pain and dysfunctionality on standing or walking , aged between 45 and 75 years old , physical capacity for active exercise endurance.

TRACKED PARAMETERS :

Demographic variables :age,sex

Clinical variables: height, weight, IMC, time since disease installed, pain score, articular mobility ,musculoskeletal associated pain .

Functional variables : endurance of walking distance in terms of pain and ability, life quality ,WOMAC index

Paraclinical Variables: standard scan for hip

Treatment protocol applied to study groups and effect monitoring:

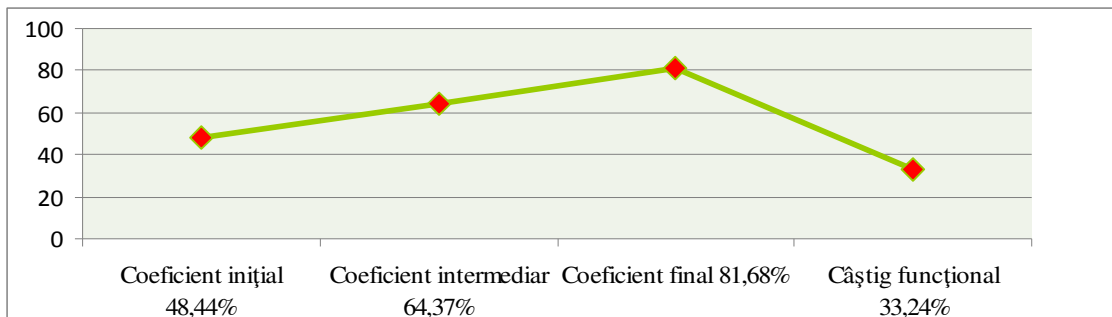
RESULTS.

In order to determine the effect of applied treatment on the groups, the following things were monitored :pain on standing and walking (VAS Scale), Articular Mobility, pain-free interval (walking distance without pain), life quality and degree of compliance to treatment. The quantification of the followed parametres was: pain intensity 8, 9 or 10 on VAS Scale= level I pain, pain intensity 5, 6 or 7 on VAS Scale = pain level II, pain intensity under 5 on VAS SCALE = level 3 pain. The two groups were homogenic and under the aspect of pain intesity at the beginning of the study .



Fig. 1. The pain nivel group A/group B

The diffrence between groups was not statistically significant initially, after applying treatment protocols we observed a net difference, statistically significant between groups. Mobility re-educations: a net difference between initial and final mobility angles was observed with a difference of at least 25 degrees.



Re-education of muscular strength: It was accomplished on different stages which were established depending on the functional ability of each patient. The exercises were included in kinetic programs of at least one hour twice a day.

THE EVOLUTION OF WALKING PARAMETERS.

Length of step:width of sustaining basis., the step frequency had a mean of 74.63 steps /min with a standard deviation of 5.205 with a statistical significance larger than the initial one($p < 0.001$).

THE MILEAGE

The walking distance in two minutes was calculated by the following formula: (length of step x frequency) x 2/100. For reference distance the calculation included a medium step length of 60 cm and a medium frequency of 110 steps per minute, presented a mean of 61.71m with a standard deviation of 6.604, with a lower statistical significance than the initial one($p < 0.001$). These parameters were compared with the median reference values presented in the speciality literature according to which the mean step-length is 50/70cm, width of sustaining basis of 8/10cm, frequency of walk 100/120 steps/min and the median walking speed resulting from the relation between length of step and frequency. The width of the sustainability basis presented a mean 27.30cm with a standard deviation of 3.047, larger than initially. ($p < 0.001$)

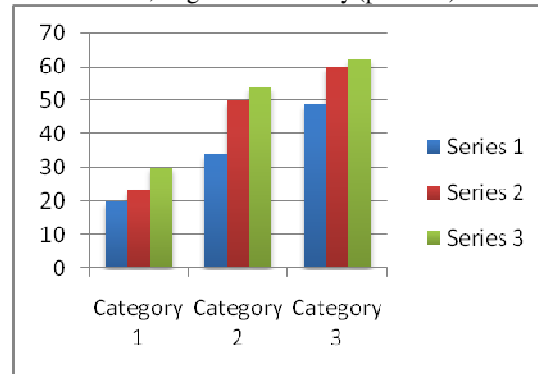


Figure 3. Width of sustainability basis

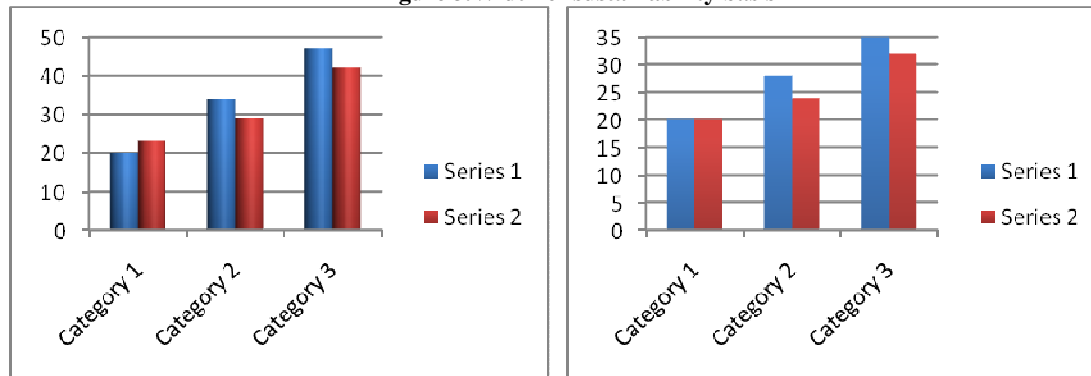


Figure 4. The evolution of walking frequencies between groups A and B

Walking frequency: There have been differences between the evolutions among steps in 30 or 90 days' time. Recovery is noticeable in lots B1, and favourable in a maximum of 90 days.

CONCLUSION:

The compared groups were homogenous, from a demographic perspective. There were no statistically significant differences between groups regarding the distribution of age and sex or from a functional perspective. (WOMAC index, walking parameter, life quality). The studied groups were similar at the beginning of the study. Patients responded well to the applied techniques, their mobility and muscular strength improved, there were no patients presenting with side-effects (increase in pain, tiredness) following recovery treatment. As seen in the comparative study, the recovery method through massage, kineto therapy, has a very important role in their recovery from hip instability regardless of etiology and associated flaws, applied for improving the walking ability and quality of life, as well as personal independence.

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RISK REDUCTION OF FRACTURES IN PATIENTS WITH OSTEOPOROSIS, WITH NO PHARMACOLOGICAL TREATMENT

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Abstract:

Osteoporosis is a “silent epidemic”. From the experience of a recovery clinic and reading related literature, I concluded that antiosteoporosis treatment does not significantly reduce the risk of fractures if the osteoporotic patient does not have toning muscles, if he is not taught to balance while standing or walking to prevent falls. Without these, the patient will be prone to fractures.

This study was made under careful observation and treatment of 120 patients between 15.03.2009 and 05.05.2014 in the Department of Rehabilitation Therapy in “St. Spiridon” Hospita, inside the city of Braila. The patients were divided into two groups: One group with also functional problems determined by Lombar OPSI DMO and the second group with also functional problems of the hip joints and hip DMO (coxofemoral osteoporosis). The grade of disability was established on the basis of :WOMAC, articular and muscular balance, Waddell Main and Rolland Morris quiz tests for pain in lombar and hip mobility. All patients were tested for risk of falling. The success was due to physiotherapy in appropriate formulas, refreshing massages, kinetic therapy programmes for every objective.

Conclusions: Patients from the 2 groups did not suffer any fractures from falling in the last 5 years, falls were 70 % reduced and results were similar with or without anti-resorptive treatment.

Key words: *osteoporosis, fractures, kinetic program.*

INTRODUCTION

Osteoporosis is a “silent epidemic”; fractures are often the first sign of osteoporosis, a disease characterized by the low bone mass and the deterioration of the microarchitecture of the bone tissue which generates bone vulnerability and leads to increase of fracture risks with an excess of morbidity of 30 -40 % of females and 15 % of males. The objective of this paper is to demonstrate the importance of kinetic treatment in maintaining the stability with increasing muscle force, maintaining balance in walking and to prevent people with osteoporosis from falling and being prone to fractures. As motivation, from the experience of the Recovery Clinic and reading specialty literature, I concluded that treatment against osteoporosis does not significantly reduce fracture risk, if the osteoporotic patient does not have tonic muscles, if he is not taught to have balance in walking in order to prevent falls, conditions without which he is prone to fractures.

MATERIALS AND METHODS

This study was done with direct observation of 120 treatment cases in the period of 15th Marc 2009 and 5th of May 2014 in the Recovery Medical Unit of “ Saint Spiridon Hospital” of Braila and the S.C “Fiziter” SRL Braila. The patients were grouped in 2 lots. One lot with functional problems determined by Lombar OPSI DMO and a lot with functional problems of the hip joint and hip DMO (coxofemoral OP). Every patient had: an examination sheet, specific to the locomotor disorder, an evaluation test for pain, an evaluation test for the disability, an evaluation test for the risk of falling down.

The degree of the disability was established on the basis of the: Western Ontario McMaster University (WOMAC), articular and muscle balance, Tests and quizzes from Waddell Main and Roland Morris for pain and lombar mobility of the hip. All patients were tested for the risk of falling down.