

RECOVERY OF HAND ARTHRITIS BY PHYSICAL THERAPY

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Key words: rheumatoid arthritis, rehabilitation, joint mobility.

Abstract: Rheumatoid arthritis has a chronic progressive evolution, requiring early and lasting intensive treatment. The disease predominates in women, being more frequent onset between 30-40ani. For this study, we had the three subjects diagnosed with rheumatoid arthritis with various forms of evolution. Each patient received an individualized physical therapy program. After the treatment was found an improvement of symptoms of rheumatoid arthritis: as the treatment was applied at an earlier stage of disease, the results were better.

Introduction:

Rheumatoid arthritis is a chronic systemic inflammatory disease whose main characteristic is affecting synovial joints.

Inflammatory process can affect the soft tissues: tendons, fascia, ligaments, muscles and may extend to the bone, causing osteoporosis and erosions. Widespread nature of inflammation makes possible the systemic disease with pulmonary, cardio-vascular, kidney, eye, skin, neurological lesions.

The disease occurs most frequently between 30-40 years and affects women 2-3 times more often than men.

The cause of the disease is unknown, but there seems to be a combination of endogenous factors (including collagen and immunoglobulins) and exogenous (microorganisms) that interact on a background of genetic susceptibility, as demonstrated by familial aggregation of disease and the presence of histocompatibility antigens.

Tendency for evolution and aggregation justifies the application of the concept of secondary prevention, and the disability on the recovery.

Just trying to improve the level of individual handicap is not enough but it is often necessary to change the environment around the patient to facilitate its work, which would become impossible or

extremely difficult in its environment for life, all for improving quality of life.

Concern for these patients is not only justified by the severity of dysfunctional clinical manifestations of disease, but also by the quite high frequency of rheumatoid arthritis in the active population (from 0.5 to 1.5%).

Material – method:

The research was conducted over a period of eight months. The study was conducted on a total of three subjects, selected on the basis of clinical and laboratory manifestations. The first patient, 42 years old, was diagnosed with rheumatoid arthritis, stage II. The second subject, 50 years old, and the third subject, 49 years old, were diagnosed with rheumatoid arthritis,, stage III. Subjects were applied initial, intermediate and final individual tests to highlight the benefits of physical therapy in recovery of hand arthritis. Rehabilitation programs and evaluations were made in the cabinet of kinesiology at the University Stefan cel Mare Suceava. Each subject received an individualized rehabilitation program based on physiotherapy, therapeutic exercises and massage.

Controlling the pain was a major objective; for this I used:
-orthoses and positions to maintain the joint rest;
-electrotherapy;
-thermotherapy procedures, not exceeding 380C.
Systematic physical therapy programs aimed at:

- Mobilization of the neighboring joints of the hand: elbow, shoulder;
- Mobilization of the wrist and fingers:
 - using rings to directly target the fingers 2, 3, 4 during finger flexion exercises;
 - thumb mobilization and first interdigital space preservation;
 - the harmfulness of metacarpal-phalange joints hyperextension during exercise.
- Strengthening the extensor apparatus of the fingers, wrist extensor and flexor of the fingers.
- Strengthening the lumbricals and interossei.
- Strengthening the flexor, the extensor brevis and the abductor longus of the thumb.



Fig.1 Ball catching and pulling them to heel



Fig.2 Finger abduction and adduction with the kinetotherapist resistance

Results:

Each of the subjects were tested goniometrically for joint mobility evidence.

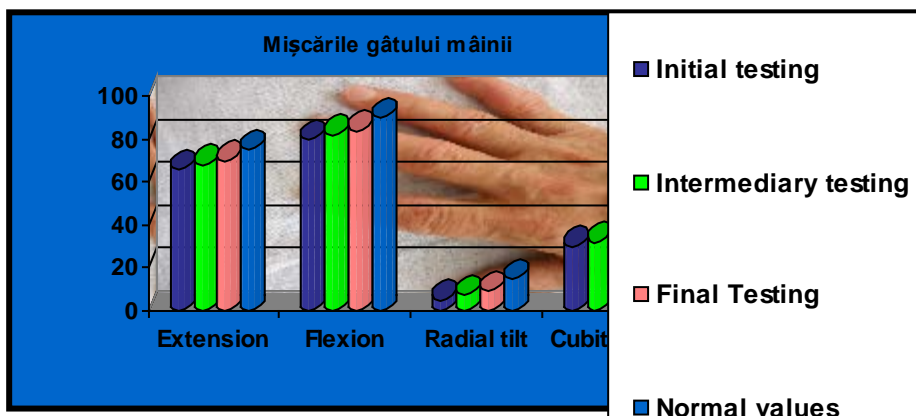
Table 1 The values obtained for the three tests by the first patient

Parameters	Initial test	Intermediary test	Final test	Normal values
Wrist extension	68 ⁰	70 ⁰	72 ⁰	75 ⁰
Wrist flexion	86 ⁰	87 ⁰	88 ⁰	90 ⁰
Wrist radial tilt	12 ⁰	13 ⁰	14 ⁰	15 ⁰

Wrist cubital tilt	37 ⁰	38 ⁰	39 ⁰	40 ⁰
Extension of the last 4 fingers	87 ⁰	87 ⁰	89 ⁰	90 ⁰
Flexion of the last 4 fingers	88 ⁰	89 ⁰	89 ⁰	90 ⁰
Lateral tilt of the last 4 fingers	57 ⁰	57 ⁰	58 ⁰	60 ⁰
Thumb extension	23 ⁰	24 ⁰	24 ⁰	25 ⁰
Thumb flexion	7 ⁰	8 ⁰	9 ⁰	10 ⁰
Thumb abduction	58 ⁰	58 ⁰	59 ⁰	60 ⁰

The same table was used to highlight the values obtained from testing the first two patients.

The best results we have obtained with the first patient; we have reached about 90% of normal functional capacity. In the second and third patient was a less significant improvement (85% and 80%) because the two subjects were in an advanced stage of disease compared with the first patient.



Graph. 1 Graphical values obtained by the first patient testing wrist movements

Discussions:

The results depended heavily on the progress of rheumatoid arthritis. The kinetic treatment was applied as early as the outcome was so good. Immediate application of physiotherapy program may determine the prevention of joint stiffness installation and functional impotence of the hand. Individualization of treatment is an important factor for successful treatment; it is done according to clinical stage, age, patient compliance, especially by the lack of functionality of each patient. It is also very important to train patients on everyday gestures and postures. Physical therapy can improve and enhance the effects of medical treatment and physiotherapy. The results are maintained long term thereby, favoring the optimal socio-professional reintegration. After application of physical therapy program has been a considerable improvement in quality of life.

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Titlu: Recuperarea prin kinetoterapie a mâinii reumatoide.

Cuvinte cheie: poliartrită reumatoidă, recuperare, mobilitate articulară.

Rezumat: Poliartrită reumatoidă are o evoluție cronică, progresivă, necesitând un tratament intens, precoce și de durată. Boala predomină la sexul feminin, debutul bolii fiind mai frecvent între 30-40ani. Pentru acest studiu am avut drept subiecți 3 persoane diagnosticate cu poliartrită reumatoidă, cu diferite forme de avansare. Fiecare pacient a beneficiat de un program fiziokinetic individualizat. După aplicarea tratamentului s-a constatat o ameliorare a simptomatologiei poliartritei reumatoide astfel: cu cât tratamentul a fost aplicat într-un stadiu mai timpuriu al bolii cu atât rezultatele au fost mai bune.

Titre: Récupération des arthrite de la main par la kinésithérapie.

Mots-clés : polyarthrite rhumatoïde, la récupération, la mobilité des articulations.

Résumé: La polyarthrite rhumatoïde a une évolution chronique, progressive qui exigeant un traitement précoce, intensif et durable. La maladie prédomine les femmes genre et l'apparition étant plus fréquents entre 30 et 40 ans. Pour cette étude, nous avons trois sujets qui ont le diagnostic de polyarthrite rhumatoïde avec diverses formes d'évolution. Chaque patient ont reçu un programme de physiothérapie qui a été individualisé. Après le traitement a été trouvé l'améliorer les symptômes de la polyarthrite rhumatoïde comme: plus que le traitement a été appliqué à un stade précoce de la maladie tout les résultats étaient meilleur.