ASPECTS REGARDING THE RECOVERY OF THE HAND WITH RHEUMATOID ARTHRITIS THROUGH KINESIOLOGY METHODS

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Keywords: *Kinesiology, rheumatoid arthritic hand, recovery.*
Abstract: *Rheumatoid arthritis can occur at any age. I focused on this study and because there is an increase of the number of people suffering from rheumatoid arthritis, and that determined me to look for the causes and the methods of prevention and developing of this disease, as well as for treatment methods. This study focuses on recovery of the rheumatoid arthritic hand, by movement to recover, restore and control pain, to regain the motile functions of the hands.*

Introduction

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

Inflammatory process can affect the soft tissues: tendons, fascia, ligaments, muscles and can spread to bones, causing osteoporosis and erosions. The generalized character of the inflammation may possible the systemic affectation with pleural-pulmonary, cardiovascular, kidney, eyes, skin, neurological lesions.

The disease occurs most frequently between 20-40 years and often, affects 2-3 times more women than men.

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

Using known criteria of A.R.A, the clinicians from United States consider that the frequency of rheumatoid arthritis in the U.S. population is 3% for women and 1% for men. Annually, appear between 0.5 % and 0.3 % new cases of rheumatoid arthritis for each 1000 patients.

O'Sullivan and Catchar, using the same group, restrictive criteria New York, find a frequency of the disease lower (0.5% for women and 0.1% for men). The difference seems to be due to many benign forms of rheumatoid arthritis, attenuated, without developing deformities. In England 5.2% of women and 2.1% of men suffer of rheumatoid arthritis and in Scandinavian countries 8% of the population. The cold and the dump climate seem to be predisposing factors.

In our country Stoia et al, find that 5% of the internal patients suffer of rheumatoid arthritis disease.

Rheumatoid arthritis can occur at any age. During childhood this disease presents distinct clinical particularities. For adults, the disease frequency based on age knows two increases: to 30 years and between 55 and 75 years, average age being 42 years. Rheumatoid arthritis appeared for an elder over 65 years, almost always raises the issue of differentiation by paraneoplasic arthritis. Obviously the disease affects more females than males (2 - 7 women and 1 man).

Material and methods

Research hypotheses

To realize this study we considered the following assumptions:

· To what extent the application of the kinesiology treatments may improve the joint mobility on long and medium term aim?

· To what extent can we restore the decreased functions or to increase the functional level by applying a therapeutic program?

· Is it possible to improve the motile functions of the hand by kinesiology means?

The purpose and tasks of the study

This study focuses on recovery by movement of the rheumatoid arthritic hand to recover, restore and control pain and to regain the motile functions in hands.

Its purpose is to verify the assumptions made and based on the achieved results to be able to contribute to improvement in the recovery process.

In this study we considered the following objectives:

- Consult the domain literature to establish the currency of the subject and the level of the research on this theme;
- Establishing research hypotheses, and the methods through which will be checked;

- Identification and selection of the cases presented that serve to achieve the proposed objectives;

- Organization of specific recovery activities providing a necessary logic based on stages, so that this activity should be based on the previous activity, and to prepare the next one;

- Recording the achieved results and their interpretation, to highlight the evolution of subjects;

- Objective evaluation of the results, and based on those results, the extraction of some conclusions which will motivate the reasons to continue and extend this research.

Duration and stages of research

The research was held from October 1st. 2011-March 30th. 2012 and included the following stages:

Stage I - October 1st. 2011- January 10th. 2012 – Exploring the literature in the domain, the theoretical documentation was made.

Stage II - December 1st. 2011- January 10th. 2012 - It was considered the selection of a group of subjects included in this research;

Stage III - January 10th. 2012- February 23rd.2012 - There were applied the exploration and evaluation modalities, for monitoring patient outcomes within the parameters investigated, in order to compare the initial, intermediate and final testing, to verify the efficiency of the means that were applied;

Stage IV - February 23rd. 2012 - March 10th. 2012 - There were applied kinesiology programs, which have been modified from time to time depending on patient progress.

Stage V - March 10th. 2012 - March 30th. 2012 - The achieved results have been processed and interpreted, the conclusions were presented and the research was elaborated.

The subjects were three as a number who took part in the recovery program through kinesiology as follows:

– N. P.

– T. E.

– C. A.

The subjects had to pass individual initial, intermediate and final testing to highlight the benefits of kinesiology application in the recovery process of the rheumatoid arthritic hand.

Research methods that were used

Throughout the study we have used several methods to ensure the scientific and theoretical foundations of the topic, and for the collection,

recording and processing of data to assert the proceeded activity and the normal results.

Method of scientific documentation

Observation method

Survey method

Case study method

Method of graphic representation

The graphic representation has the great advantage that is suggestive and to be clear, it requires accurate and aesthetic design.

Proper organization of research

Each of the subjects was tested through the goniometrical method to demonstrate the joint mobility. Initial tests were made at the beginning, then during the kinetic program (intermediate) and at the end, the final testing.

In order to be effective, the recovery programs have been customized for each patient individually and their effectiveness was assessed using the joint testing.

Testing is performed using goniometry:

We considered a number of objectives through the elaboration of the kinetic program as follows:

Basic objectives:

-Reducing inflammation and pain,

-Preserving function,

-Preventing deformation.

The objectives were individualized for each patient, according to the stage of the disease.

Decreasing pain was a major goal and to accomplish that I made use of:

-Braces and postures to maintain the joint rest.

-Electrotherapy.

-Thermotherapy procedures not exceeding 38 ^{0} C

Therapeutic Exercises:

1. The forearm supported on the edge of the table, the fist relaxed, the hand off the table: to perform active mobilizations of flexion-extension mobilization of the wrist.

2. With the forearm and the hand, with the fingertips supported on the table, repeat tapping the table keeping the fingers semi-flexion position.

3. The catch in hand of a tennis ball, spreading the fingers, perform flexions, extensions, rotations of the wrist. The ball can be caught by an elastic wire in a fixed place, performing in the same manner the same but resistive movements.

4. While sitting with the forearm supported on the table catching a stick in hand with the thumb placed on the axis of the stick, rise the stick up 20 times;

5. from the same position the patient catch the sponge with the fingers and squeeze it several times, while perform the wrist extension and pressures on the sponge.

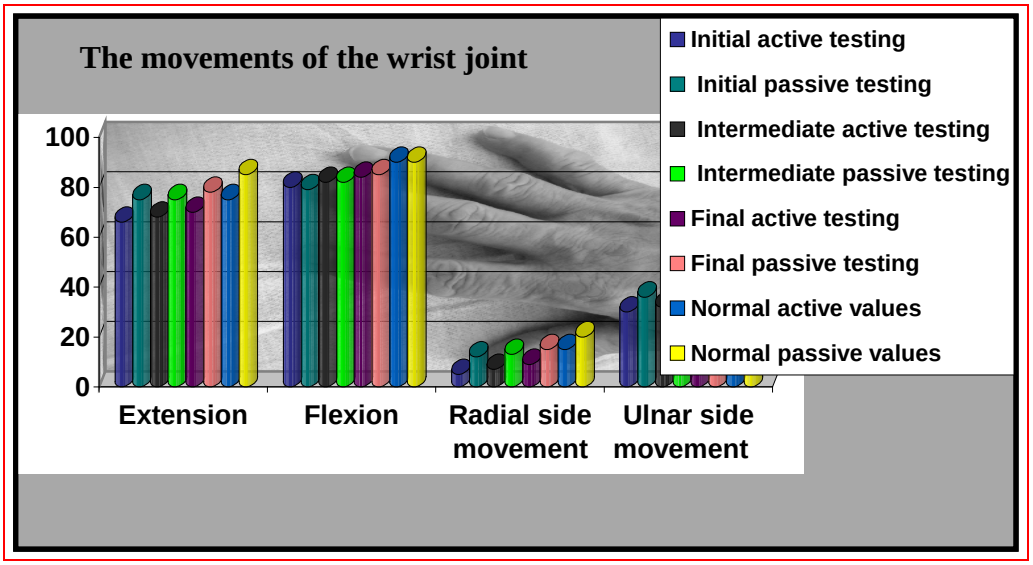
Results and discussion

After applying the recovery program there were achieved quite good results. These are listed in the summary table below.

Tab.4.1.The achieved values of the first patient for the three tests

parameters	**Testing initial**		**Testing intermediate**		**Testing final**		**Normal**	
	Active	assive	ctive	Passive	Active	Passive	Active	Passive
Extension of the wrist	68 ^{0}	80 ^{0}	70 ^{0}	82 ^{0}	72 ^{0}	83 ^{0}	75 ^{0}	85 ^{0}
Flexion of the wrist	86 ^{0}	89 ^{0}	87 ^{0}	90 ^{0}	88 ^{0}	90 ^{0}	90 ^{0}	90 ^{0}
Radial side movement of the wrist	12 ^{0}	18 ^{0}	13 ^{0}	18 ^{0}	14 ^{0}	19 ^{0}	15 ^{0}	20 ^{0}
Ulnar side movement of the wrist	37 ^{0}	42 ^{0}	38 ^{0}	43 ^{0}	39 ^{0}	44 ^{0}	40 ^{0}	45 ^{0}
Extension of the radio - carpal joint	31 ^{0}	37 ^{0}	32 ^{0}	38 ^{0}	33 ^{0}	38 ^{0}	35 ^{0}	40 ^{0}
Flexion of the radio-carpal joint	47 ^{0}	53 ^{0}	48 ^{0}	53 ^{0}	48 ^{0}	54 ^{0}	50 ^{0}	55 ^{0}
Radial side movement of the radio-carpal joint	3 ^{0}	7 ^{0}	4 ^{0}	8 ^{0}	4 ^{0}	9 ^{0}	5 ^{0}	10 ^{0}
Ulnar side movement of the radio-carpal joint	12 ^{0}	17 ^{0}	13 ^{0}	18 ^{0}	14 ^{0}	18 ^{0}	15 ^{0}	20 ^{0}
Extension of the median-carpal joint	47 ^{0}	52 ^{0}	48 ^{0}	53 ^{0}	49 ^{0}	54 ^{0}	50 ^{0}	55 ^{0}
Flexion of the median-carpal joint	33 ^{0}	38 ^{0}	33 ^{0}	39 ^{0}	34 ^{0}	39 ^{0}	35 ^{0}	40 ^{0}
Radial side movement of the median-carpal joint	8 ^{0}	14 ^{0}	8 ^{0}	14 ^{0}	9 ^{0}	15 ^{0}	10 ^{0}	15 ^{0}
Ulnar side movement of the median-carpal joint	23 ^{0}	27 ^{0}	24 ^{0}	28 ^{0}	24 ^{0}	29 ^{0}	25 ^{0}	30 ^{0}
Extension of the last four fingers	87 ^{0}	107 ^{0}	87 ^{0}	108 ^{0}	89 ^{0}	108 ^{0}	90 ^{0}	110 ^{0}
Flexion of the last four	88 ^{0}	108 ^{0}	89 ^{0}	109 ^{0}	89 ^{0}	108 ^{0}	90 ^{0}	110 ^{0}

fingers								
Side movement of the last four fingers	57 ^{0}	97 ^{0}	57 ^{0}	98 ^{0}	58 ^{0}	98 ^{0}	60 ^{0}	100 ^{0}
Extension of the thumb	23 ^{0}	27 ^{0}	24 ^{0}	27 ^{0}	24 ^{0}	28 ^{0}	25 ^{0}	30 ^{0}
Flexion of the thumb	7 ^{0}	12 ^{0}	8 ^{0}	13 ^{0}	9 ^{0}	13 ^{0}	10 ^{0}	15 ^{0}
Abduction of the thumb	58 ^{0}	67 ^{0}	58 ^{0}	68 ^{0}	59 ^{0}	69 ^{0}	60 ^{0}	70 ^{0}
Adduction of the thumb	0 ^{0}	0 ^{0}	0 ^{0}	0 ^{0}	0 ^{0}	0 ^{0}	0 ^{0}	0 ^{0}



Graphic interpretation 1. Values obtained at initial, intermediate and final testing.

In this graphic interpretation there are presented the values obtained at initial, intermediate and final testing of the wrist movements as follows: extension, flexion, radial side movement and ulnar side movement. These values can be analyzed in more detail in (Tab.4.1.)

Due to lack of space the results from the other two patients have not presented.

Conclusions

- The data resulting from this research are in accordance with the medical literature. The disease prevails in females the onset of the disease is most common between 30- 40 years old.
- The disease has a chronic evolution, progressive, requiring intensive treatment, early and long.

- The individualization of the treatment is an important factor for successful therapy, which is made according to the clinical presentation, the stage, the age, the patient compliance, especially by the functional indices of each patient.
- The best results were seen in the strict individualized kinesiology programs.
- It is very important to train the patients on everyday gestures and postures.
- The treatment effects were observed and from a psychological view, as being positive for the patients those having an increased tonus. We found no side effects in applying the treatment.
- Prerequisite for successful therapy is gaining cooperation and participation of the aware patient that the kinetic program and the joint's hygiene should be continued.

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Titlu: Aspecte privind recuperarea mâinii reumatoide prin kinetoterapie.
Cuvinte cheie: Kinetoterapie, mână reumatoidă, recuperare.
Rezumat: Poliartrita reumatoidă poate să apară la orice vârstă. M-am orientat asupra acestui studiu şi datorită faptului că se observă o creştere a persoanelor ce suferă de poliartrită reumatoidă, ceea ce m-a determinat să pun problema depistării cauzelor şi a metodelor de prevenire a producerii acesteia, cât şi a metodelor de tratament. Această lucrare are în vedere recuperarea prin mişcare a mâinii reumatoide în

scopul recuperări, restabiliri şi combaterii dureri, pentru redobândirea funcţiilor motorii la nivelul mâinilor.

Titre: Aspects relatifs a la récupération de la main avec la polyarthrite rhumatoïde grace a des methodes kinesiologie.
Mots-clés: kinésiologie, la main rhumatoïde arthritiques, de récupération
Résumé: La polyarthrite rhumatoïde peut survenir à tout âge. Je me suis concentré sur cette étude et parce qu'il ya une augmentation du nombre de personnes souffrant de polyarthrite rhumatoïde, et que m'a déterminé à rechercher les causes et les méthodes de prévention et de développement de cette maladie, ainsi que des méthodes de traitement. Cette étude se concentre sur la récupération de la main rhumatoïde arthritique, par le mouvement de récupérer, restaurer et contrôler la douleur, de retrouver les fonctions mobiles des mains.