

## **SCLERODERMIA. PHYSIOTHERAPEUTIC TREATMENT (CLINICAL CASE)**

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### **RESUMEN**

Los casos de Esclerodermia que llegan a las manos del fisioterapeuta son muy escasos, ya que la gran mayoría son tratados mediante farmacos por el clínico.

Al llegar a nuestras manos un paciente de Esclerodermia quisimos aprovechar la ocasión para demostrar que el tratamiento fisioterápico es efectivo para paliar los efectos de esta enfermedad; este consistió en : hidroterapia, baños de parafina, ejercicios respiratorios, cinesiterapia y estiramientos musculares; consiguiendo con ello un aumento de los arcos articulares y un aumento de la función respiratoria redundando todo ello en una mejor calidad de vida del paciente.

### **KEY WORDS**

Esclerodermia; Fisioterapia; Cinesiterapia; Ejercicios respiratorios; Termoterapia; Hidroterapia.

### **Abstract**

Very few sclerodermia cases come into physiotherapist hands since most of them are treated with drugs by clinical.

Having come a sclerodermia patient into our hands, we wanted to make the most of it in order to prove that physiotherapeutical treatment is effective to relieve the effects of this illness. This treatment consisted in: hydrotherapy, paraffin baths, breathing exercises, kinesitherapy and stretching. We obtained with it an increase in the articular arches, as well as an increase in the breathing function. All these improvements are to the advantage of a better quality of life of the patient.

### **KEY WORDS**

Sclerodermia; Physiotherapy; Kinesitherapy; Breathing exercises; Thermotherapy; Hydrotherapy.

### **INTRODUCTION**

Sclerodermia produces an articular and muscle invalidating clinical picture with several breathing and visceral signs.

Physiotherapy must treat the patient attending a musculoarticular and respiratory point of view.

In the case we are concerned about, we find a male patient who presents poikiloderma, Raynaud syndrome which affects the fingers in both hands, a generalised epidermal waxy appearance; the patient's age is 48 and he has done a **spirometry** due to his respiratory function deficit in the beginning of the treatment in order to compare it with a later result:

#### **C.V.**

Theoretical 3940 Found 2150 % 55

#### **VEMS**

Theoretical 3100 Found 1350 % 44

#### **I. Tifeneau**

Theoretical 79% Found 63%

Regarding the articular and muscle problem of the patient, we will focus on hands, wrists, shoulders and ankles since these are the most affected joints. He shows a lack of extension in both wrists of 45° with metacarpophalangeal flexion, abduction of the right shoulder of 110°, slight deficiency in shoulder flexion (-25°), bilateral pes equinus that impedes normal walk; he also presents a 20° metacarpophalangeal flexion with inability for extension without previous flexion of the wrist.

We start physiotherapy treatment in order to improve ordinary life activities of the patient because of everything which has been previously detailed. Through this essay, we want to highlight how important it is to treat these type of patients multidisciplinary and establishing physiotherapy protocols.

## **INSTRUMENTS AND METHOD**

For the sclerodermia treatment, this specific case, we use:

- Hydrotherapy
- Paraffin wax baths
- Kinesiotherapy
- Directed respiratory exercises
- Assisted mobilizations
- Massage
- Stretchings
- Active exercises
- Self-stretchings
- Bicycle

Hydrotherapy consisted on subaquatic spurts and general exercises in swimming pool at 36,5° C during 15 minutes.

Paraffin wax baths have been applied during 10 minutes before mobilisation and stretching.

Regarding kinesiotherapy, respiratory exercises have been practised, specially on costal expansion, diafragmatic exercises and auxiliary respiratory muscles workout. Assisted mobilisations and stretchings have been done in shoulders, elbows, wrists and fingers. Active exercises were established looking forward to increase flexibility of cervical column and trunk. Massages consisted on kneadings of both triceps before self-stretchings done using the Freeman table for elongation of both muscles. And bicycle in order to achieve a general tonification of the lower limbs.

Treatment lasted 4 months and daily sessions were done (5 days a week).

A Espiro-Flow III has also been used for stimulating inspiration after the respiratory exercises.

## **RESULTS**

Some days before deciding the patient discharge, he was done a spirometry to compare his stage before and after the treatment. The results were the following:

**C.V.** Found 2650 % 65

**V.E.M.S.** Found 1850 % 59

**I. TIFFE** 69,8%

These data compared to the ones obtained during the previous spirometry done at the beginning of the therapy show an increase in the vital capacity and in the maximum expiratory volume per second.

Since the first days of treatment, the patient expresses an subjective improvement ("he feels lighter"); the exercises he has to perform are easier every day after hydrotherapy than whenever he does them at home. He also states an improvement in his respiratory function which is corroborated by the use of Espiro-Flow III. This machine is used both for achieving an approximate control of the respiratory function and for exerting a patient stimulus and self-control.

By the time the patient is discharged, he states:

- 140° abduction of both shoulders
- complete shoulder flexion
- 15° ankle dorsal flexion (removal of pes equinus), what allows the patient to walk normally even though the dorsal flexion of the ankle is not complete.

Regarding the wrist and the fingers, results were worse. A complete extension of wrists was not achieved. Nevertheless, a physiological posture of wrist and fingers is achieved, by which the patient obtains a significative improvement in the function of both hands.

At discharge, the patient is advised to continue exercises and stretchings of the muscle groups he used to workout in the gym, costal expansion respiratory exercises, and the use of the inspiration stimulator.

## **CONCLUSIONS**

Due to the reduced number of sclerodermia cases that physiotherapists may find, it is essential to open a treatment protocol through physical therapy, without underestimating other ways to alleviate this illness.

This physiotherapy treatment must focus in respiratory disorders in most of the cases. The muscle and joint disorder claims for heat in any of its ways and for the stretching of the group of muscles affected after this heat application.

It is important that the patient becomes conscious of his illness and that the therapy doesn't end when he leaves the gym. We must educate and train him whatever may be beneficial in order to endure the results obtained. We must also show him how to identify any worsening in the functions achieved so that he can prevent this from happening. This is the reason why the following up of these patients is specially important. The last objective of physiotherapy for these patients is improve ordinary life activities.

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