Physiotherapeutical intervention in cases of Bechterew disease.

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Description and clinical characteristics

Bechterew disease is an inflammatory atropathy of an unknown origin. Also known as Strümpell-Marie disease or rheumatoide spondilytis it is considered to be an illness different from rheumatoide arthritis because of its major existence among the male population, the early age at which the disease manifests, the absence of subcutaneous nods and the localization of the artropathies. When performing an analysis, the serological reaction to the rheumatoide factor is negative and to the application of X-rays it shows a calcifying of the ligaments.

The main and characteristic injury of spondilytis is a sinovitis of the sacro iliac articulations. The apophyseal lower vertebral articulations and the costovertebral articulations are also affected. At a later stage the spinal ligament calcifies, giving way to the so-called syndesmophytes, making the spinal ligament look like a bambu cane. Cardiac disorders, such as aortitis or aortic insufficiency are common. Uveitis or iritis affects about 25% of the patients and eventhough there is no perforating escleromalacy the patient usually ends up blind.

The disease has an insiduous beginning with morning rigidness, which increases after periods of inactivity, pain caused by inflammations localizad at the height of the sacro iliac articulations with irradiation in the buttocks, the lower part of the thigh and a limitation of the bending capacity. These symptoms are followed by the disappearance of the physiological curves, starting with the lumbar lordosis and anticipated by an inclination of the head an thorax. While the column 'welds', the so-called 'stoker's column' appears. The mobility of the thorax decreases often accompanied by a sensation of pain when inhaling deeply, coughing and sneezing.

In the lab tests you will characteristically encounter the antigen HLA B27, which will help us to confirm the diagnosis. The evolution of the patient will be a decrease of the pain and a loss of mobility. Weight loss and low-grade fever are also common during the pathological process.

The physiotherapist's action

Through global and specific exploration the physiotherapist must determine the flexibility of the caquis. He must therefore use the finger-floor distance which determines the bending of the chest in general, in which also participate the articulations of the hip joint. Another possible exploration consists in the partial Schober Test, which is a more precise exploration of the lumbar segment. It is also of a great importance to know the state of the muscles in order to determine possible contractions and atrophies.

The physiotherapeutical treatment can be classified in two periods, on the one hand we will discuss the inflammatory phase, on the other hand the periods between two outbreaks.

Physiotherapy in the inflammatory period

In the accute or inflammatory phase, we will concentrate on the reduction of the pain and the inflammation. We will therefore use a controlled rest in order to decrease the inflammation and to avoid rigidity.

When the patient is lying in bed on his back it is important to make sure he is lying completely flat on the surface.

It is also recommended he tries lying on his belly during 20 minutes before getting up in the morning and before falling asleep in the evening. It is possible the patient finds this position uncomfortable and that it produces a feeling of breathlessness.

He will have to start with brief periods of 5 minutes and increase these periods according to his possibilities. The bed must be firm and without curves. The best would be a spring matrass with a wooden table, eventhough not excessively hard. When the patient rests in a chair, the latter must be sufficiently high, with a firm seat and a straight back, allowing the patient to maintain the knees and the coxofemoral articulations in a right angle.

During these periods of rest, it is convenient to apply a local warmth by conduction and to make the patient aware of the importance of respiratory excercises. He must perform diafragmatic and coastal respiration rehabilitation exercises. It is possible to combine active-assisted mobilizarions of the extremities and the cervical column. When considering the possibility of isometric exercises the latter have to be performed with

little repetitions in order to avoid an aggravation of the inflammatory period.

Physiotherapy in the non-inflammatory period

During the non-inflammatory period, we can continue with techniques of thermotherapy by convection (infrared) or by conversión (short wave and micro wave). The application of electrotherapy of low and middle frequencies also offers good results as an analgesic method. The respiratory exercises learned during the inflammatory phase will continue during this period, insisting in its correct application, which will increase the vital capacity of the patient and will allow him to relax.

The patient therefore has to perform flexibilization exercises of all the vertebral segments and if a segment is ankylosed , the physiotherapist must insist in posture treatments to maintain the articulations in the most functional position possible. These exercises can also be used for all the peripherical articulations, especially the shoulders and the hips.

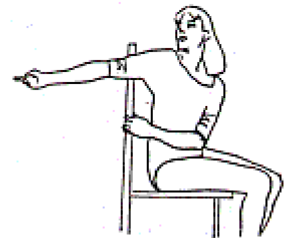
It is indicated to perform some free assisted active exercises and some passive easy ones. It is important to insist on the stretching of the shoulder muscles (pectorals) and the hips (flexors, abductors and ischiotibials), as well as to stimulate these groups of muscles. It is of an extreme importance to maintain a correct position during the day and to avoid using resting aids because of the risk of rigidity.

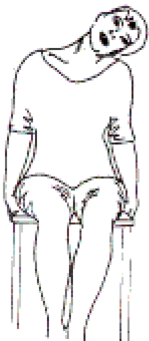
Exercises for daily practise

We will now detail a series of exercises for daily practise offered by the Association for people affected by Espondilitis of Cordoba (ACEADE).

1. Stand up, with your heels and your buttocks against the wall and your chin turned inside. Move your head backwards until your head touches the wall and count to five. Rest. Repeat 10 times.

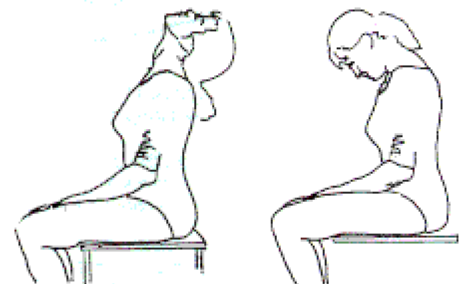
2. Sit down on a straight chair (L-shaped). Grab the left side of the chair with your right hand. Stretch out your left arm and turn it to the left, as far to the back as possible and turn your head until you can see over your left shoulder. Hold this position. Then push and turn a bit farther. Hola this position and then return to the frontal position. Repeat 3 times with each arm.



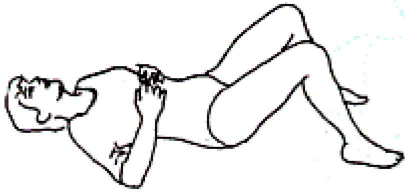


3ª. Sit down with your arms hanging down and your chin against your chest, facing forward. Bend your head to one side, trying to touch your right shoulder with your right ear. Hold the position. Make sure the muscles of the shoulder are still relaxed and bend a little more. Then return to the vertical position. (When bending laterally, the profile of the nose must remain in the same position, to make sure the head does not turn). Repeat 2 times on each side.

3b. Bend your head backwards as if running your eyes over the wall and the ceiling. Bring the head back to the vertical position. Repeat.
Now change and bend the head forwards as far as possible until your chin touches the chest. Go back to the vertical position. Repeat.

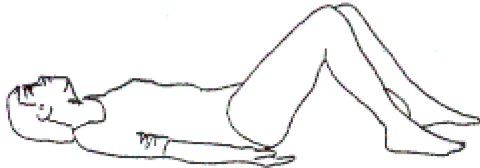


4. Lying on your back with your knees bended and your feet flat on the floor,

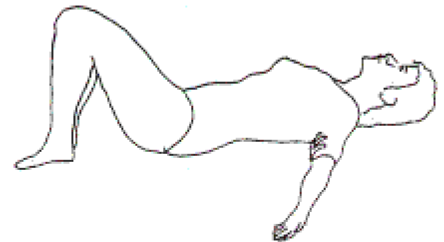


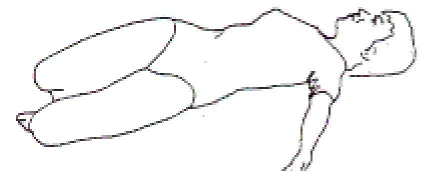
a) Put your hands against your ribs just below your breasts. Inhale profoundly through the nose and exhale through the mouth, pushing your ribs against your hands while inhaling. Repeat 10 times. (Remember it is just as important to exhale profoundly as to inhale profoundly). b) Put your hands against the upper part of your chest. Inhale profoundly through the nose and then exhale as much as possible through the mouth. Push your ribs against your hands while inhaling. Repeat 10 times.

5. Lying on your back with your knees bended. Lift your hips so your buttocks do not touch the floor and form a straight line running from your shoulders to your knees. Maintain this position counting until five and get down.



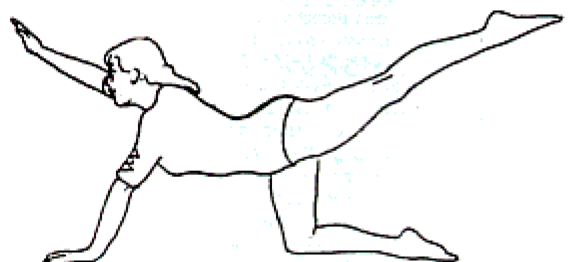
6. Still lying down on your back with your knees bended and your feet flat on the floor, lift your arms to shoulder height. Put your knees together and bend them to the right, trying to touch the outer part of your right thigh. Repeat with the left side. Repeat 9 times.



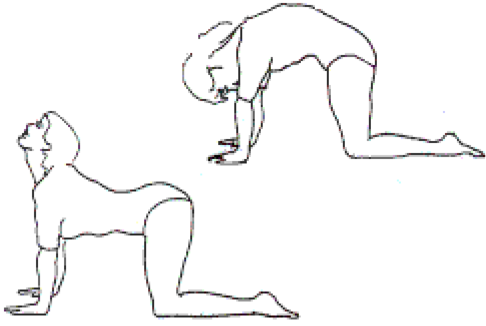


7. Lying down on your belly, with your head turned to one side and your hands against your side (if necessary, you can put a pillow underneath the chest but not underneath the waist, to be more comfortable). a) Lift one leg off the floor, keeping the knee straight and making sure the thigh comes of the floor. Repeat 5 times with each leg. b) Lift your head and shoulders off the floor. Repeat 10 times.

8. Sit down on hand and knees. Stretch your arm and the opposite leg parallel to the floor and count to 10. Lower leg and arm and repeat with the other leg and arm. Repeat 5 times with each side.



9. Sitting on hands and knees, bend your back and your neck so



you can see the front part of your thighs. Then straighten your arms so the elbows cannot bend. Lift your head up and bend your back down. (The front part of the ribs downwards and the buttocks upwards). Repeat slowly and profoundly 9 times.

Keeping up physical acivities is very good for the patient. Swimming allows to train all the different muscle groups and to increase the respiratory capacity.

Conclusions

Finally, insist, once more, in the importance of visiting the physiotherapist to perform the programmed treatment. That those persons treating the patients should be professionals with a universitary degree, with a title recognized by the Health Department, and with a wide knowledge of the disease. Avoid being mislead by pseudo-professionals, whom lack any specific training and whom often, without knowing what they're doing, because a greater damage than the one the patient is already suffering.

For further information:

· Asociación Cordobesa de Enfermos Afectados de Espondilitis.
www.espondilitis.info · Harrison.- Medicina interna: La prensa Médica Mexicana, Volumen II, 1973, 2185-6.

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