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THE USE OF LOW FREQUENCY MAGNETIC FIELD  
IN TREATMENT OF ANKYLOSING SPONDYLITIS  
KORIŠTENJE NISKOFREKVETNOG MAGNETSKOG POLJA  
U LIJEČENJU ANKILOZANTNOG SPONDILITISA

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*Introduction.* Ankylosing spondylitis is a progressive rheumatic disease of unknown aetiology. Searching for an adequate therapy, the authors also applied the magnetic field.

*Background.* The low frequency magnetic field is supposed to act upon molecules and ions moving in time with magnetic pulsations. This should improve tissue vascularity, increase tissue oxygenation up to 200 times and bring about energy changes in mitochondria with regard to the relations of adenosine-diphosphate and adenosine-triphosphate. The pulsating effect of the magnetic field also accelerates the movement of ions and the opening and closing of cell pores, causing an improvement of cell membrane permeability for the magnetotherapy in the broad field of medicine is based on the above theory.

*Materials and methods.* Research study was made in the year 2001 and 2002. The authors used a low-frequency magnetic device of QRS system, intensity of 30  $\eta$ T.

Therapy was indicated in patients with first and second stage ankylosing spondylitis according to Steinbrocker. The carrying of a constantly switched on miniature magnetic device was prescribed for a period of 4 weeks. A group of 70 patients was formed and their subjective

and objective signs of disease were followed. The subjective signs were pain (visual pain scale (VAS)), morning stiffness; the objective signs were the index of sagittal mobility, Mennell's sign, severity index of large joints and sedimentation rate (SR).

*Results.* The patients had 4 weeks of therapy. The group of 70 patients was comprised of 58 men et 12 women and were all HLA seropositive. The average age was 45 years. All patients had first or second stage ankylosing spondylitis (according to Steinbrocker).

*Subjective results.* In 70% of patients a subjective improvement was noted, in 30% there was no subjective improvement of the state of health.

*Objective results.* The objective analysis of results showed that in 50% of patients there was an improvement of the entire severity index. There was no significant difference between the indexes of sagittal mobility at the first and second investigation, no significant changes were found between sedimentation values at the first and second investigation. Mennell's sign disappeared in 30% of patients. It must be stressed that during the entire four week period, the patients received no other therapy, neither medicaments nor physical, beside their regular domestic kinesiotherapy.

*Conclusion.* As adjuvant therapy magnetotherapy can prove advantageous in treatment of ankylosing spondylitis. It cannot replace complex treatment, but should be included

in the ankylosing spondylitis rehabilitation programme with kinesiotherapy, nonsteroid antirheumatics and dietary plan.

*Key words:* ankylosing spondylitis, magnetotherapy