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Abstracts

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SAT0352 FOOT LOADING CHARACTERSTICS AFTER SURGICAL TREATMENT OF THE FIRST RAY IN RHEUMATOID FEET

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Background: Rheumatoid patients suffering from polyarthritis frequently develop foot related problems that may lead to serious impairment and limited mobility. Various surgical procedures have been described for the correction of forefoot deformities in rheumatoid feet which aim to improve foot function. Two established approaches involve either an arthrodesis or a resection arthroplasty of the first ray that may be performed in isolation or in combination with surgery of the remaining phalanges. It has not been demonstrated, however, how the results of these different approaches vary regarding foot function during walking.

Objectives: The aim of the present study was to compare the clinical and functional outcome of patients treated either with an arthrodesis or arthroplasty of the first ray for correction of forefoot deformities.

Methods: 33 patients treated with an arthrodesis (age 52.4±8.7 years) were compared to 26 arthroplasty patients (age 63.0±8.2 years, $p<0.0001$) with respect to their clinical and functional outcome. The groups were comparable with respect to body mass index, walking pain intensity, maximum walking duration, and morning stiffness in the foot and ankle. Foot function was evaluated with plantar pressure measurements during barefoot walking (emed ST-4, novel GmbH Munich). Footprints were subdivided in 10 regions of interest and analyzed regarding peak pressure, force and impulse.

Results: As expected, the first ray mobility of the arthrodesis group was significantly more impaired than for the arthoplasty patients ($p<0.0001$). The pedographically determined hallux angle was significantly lower in the arthrodesis group. Hallux loading was significantly increased in the arthrodesis group as compared to the arthroplasty patients but the loads under the 2nd metatarsal head were significantly lower. However, these differences were not reflected in the walking duration.

Conclusion: The functional evaluation revealed that the arthrodesis of the first ray caused an increased loading of the hallux but load reduction under the 2nd metatarsal head. Foot shape parameters indicated that arthrodesis resulted in a better correction of forefoot geometry than arthroplasty. Subjective judgement of the patients regarding pain and walking capacity did not reveal significant differences. Further long-term investigations might be necessary to determine which procedure has the better outcome.

SAT0353 RESULTS OF SAUVE-KAPANDJI PROCEDURE USING AN ABSORBABLE SCREW FOR THE RHEUMATOID WRIST

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Introduction: The Sauve-Kapandji procedure is widely performed for reconstruction of the distal radio-ulnar joint and is recognized to be effective. Recently, bioabsorbable bone fixation materials have been developed and used for suitable cases.

Materials and methods: Since 1996, we have performed Sauve-Kapandji procedures using bioabsorbable polylevolactic acid screws in patients with distal radio-ulnar jointdisorders. We present the clinical and radiographic results in 31 wrists of rheumatoid arthritis, observed more than six months after the surgery.

Results: In the final follow-up period, pain and swelling decreased at all wrist. There was no infection, foreign-body reaction and osteolytic reaction at all patients. Wrist extension did not change, after the surgery. But the average of wrist flextion degree was decreased significantly from 44 to 9 degrees. Both supination and pronation were improved slightly. The distal radio-ulnar joint fusion were obtained in 30 wrists and the average fusion period was 6.0 months. In one wrist, fusion of the distal radio-ulnar joint has not been obtained radiographically in the final follow-up period, but there is no abnormal mobility at the distal radio-ulnar joint.

Conclusion: Sauve-Kapandji procedure with a polylevolactic acid screw was performed at 31 wrists of rheumatoid arthritis and relatively good results were obtained.

SATURDAY, 11 JUNE 2005

Back pain

SAT0354 COMPARATIVE EVALUATION OF THE EFFICACY AND TOLERABILITY OF NIMESULIDE AND CELECOXIB IN THE MANAGEMENT OF CHRONIC LOW BACK PAIN

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Objectives: The aim of this study was to compare the efficacy and tolerability of nimesulide and celecoxib in double-blinded randomized trial in patients with chronic low back pain (CLBP).

Methods: 124 patients with the diagnosis of CLBP were recruited in a randomized, double-blinded fashion, and they received a daily dose of either 300 mg of nimesulide retard (Group 1=112) or 200 mg of celecoxib (Group 2=112). Patients were evaluated clinically as pretreatment, 1, 2, 4, 8 and 12 weeks after the treatment. The primary endpoint was improvement from baseline in time-weighted average CLBP intensity. Scale (0- to 100-mm Visual Analog Scale) at 4 weeks, which has also evaluated over 12 weeks with other outcome parameters.

Results: Demographics were similar among treatment groups. Patients ranged in age from 24 to 64 years (mean 48 years). Average duration of CLBP was 12 years. Celecoxib and nimesulide both demonstrated significant ($p<0.01$) improvement from baseline for CLBP intensity at 4 weeks, which was maintained over 12 weeks. Other endpoints including disability and bothersomeness scores paralleled pain relief. The two drugs were equally effective in terms of overall improvement of pain and the quality of life; they were equally well tolerated. However, significant differences were found between the 2 drugs in favor of nimesulide in the relief of the pain on weeks 2, 4, 8 and 12.

Conclusion: Our study showed that in the short term both nimesulide and celecoxib were effective in relief of pain and disability, but nimesulide more effective than celecoxib on weeks 2, 4, 8 and 12. Nimesulide was also superior in improving the quality of life after 12 weeks of treatment.

SAT0355 MBST® NUCLEAR RESONANCE THERAPY IMPROVES REHABILITATION OUTCOME IN PATIENTS WITH LOW BACK PAIN

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Background: In modern multi-disciplinary rehabilitation therapies, one searches for concepts that include new methods that are promising in respect to pain induced disabilities. In contrast to static magnetic fields, pulsating electromagnetic fields have been shown to induce positive biological reactions (1). Recently, a special form of the magnetic resonance technology has become available for use in therapeutic programs. The new method uses highly complex, alternating magnetic fields based on nuclear resonance frequencies (MBST®, Multibiosignal Nuclear Resonance Therapy).

Objectives: To investigate the effects of nuclear resonance therapy in patients with low back pain.

Methods: Within the scope of a randomized, double-blind, placebo-controlled study, 62 patients suffering from chronic low back pain, during a stationary rehabilitation stay with standardized physiotherapeutic measures were examined.The MBST was applied for one hour each day on five successive days. Before therapy was started, after one week and again three months after the MBST was completed, the pain at rest and under movement was avaluated using the Visual Analogue Scale (VAS). At the same time, two widely used condition-specific measures for back pain, the Roland-Morris Disability Questionnaire (RMDQ) and the Oswestry Disability Index (ODI) were applied (2).

Results: The VAS pain measurements showed a distinct reduction of pain during the rehabilitation procedure whereby the reduction was most distinct within the MBST® verum group. RMDQ and ODI distinctly showed significant improvements during the stationary rehabilitation programme in both study groups with slight advantages for the MBST® verum group in respect to some items of the questionnaires. It seems interesting to note that the RMDQ and ODI of the verum group continued to show an improvement after three months ($p<0.00001$; $p<0.01$). In comparison, the placebo group, at the end of the three month period did not show any significant change for both scores in relation to the initial values.

Conclusion: Whereas the effects of the standardized physiotherapy fade away about three months after treatment, additional MBST® treatment can result in a much longer relief of painful chronic low back pain. Effects of structural modification, similar to those already shown to occur in respect to joint cartilage tissue (3) are possible after 3 months. The MBST® method is an interesting, easily applicable treatment procedure that can be used for patients suffering from chronic low back pain in addition to other rehabilitative therapeutic measures. In our study this additive method has shown distinct positive results over 12 weeks.

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