

**AB1464-HPR ACUTE EFFECTS OF COLD – PACK APPLIED IN DIFFERENT WAYS FOLLOWING FATIGUE ON POSTURAL STABILITY, PROPRIOCEPTION AND MOTOR PERFORMANCE**

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**Background:** There is a lack of literature examining local cooling on postural stability, proprioception, and motor performance following fatigue.

**Objectives:** The purpose of this study was to examine the effects of cold-pack applied on knee joint following fatigue on postural stability, proprioception, and motor performance in healthy subjects. It was hypothesised that fatigue might cause deficits in measurements of postural stability, proprioception, and motor performance and cold-pack treatment applied on knee joint in different ways might prevent this deficit.

**Methods:** Sixty healthy subjects (33 female, 27 male; age=22.00±1.37 years, height=169.62±9.21 cm, weight=63.48±12.61 kg) were participated in the study. Subjects had no history of lower extremity injury, vestibular or postural stability problems, proprioception problems, hip, knee, and ankle instability. Postural stability, knee proprioception and motor performance were assessed by Pedalo Sensamove System, Biodex System Pro 4, and Stair Climbing Test, respectively.

The subjects were received a clinically-used fatigue protocol on a cycle ergometer. The Modified Borg's Rate of Perceived Exertion Scale has been used for fatigue determination. All assessments were performed three times at rest, immediately after fatigue and cold-pack treatment.

**Results:** There were no significant changes in terms of postural stability and knee proprioception after fatigue and cold-pack treatment compared to the condition at rest in all groups ( $p>0.05$ ). However, motor performance was significantly decreased following fatigue compared to the condition at rest ( $p<0.05$ ).

**Conclusions:** The hypothesis of this study, that fatigue could cause a deficit in measurement of motor performance was supported. On the other hand, postural stability and proprioception did not decrease following fatigue. According to the results of our study, we concluded that the subjects do not benefit from the use of cold-pack for compensating deficit in measurement of motor performance following fatigue.

**Disclosure of Interest:** None declared

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**AB1465-HPR IMPACT OF ULCERS IN QUALITY OF LIFE AND FOOT FUNCTION IN SYSTEMIC SCLEROSIS PATIENTS**

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**Background:** Systemic Sclerosis (SSc) is a progressive, highly disabling pathology associated with pain, functional limitation, loss of ability at work and high social costs. Recent studies have proved that quality of life is worst in SSc patients than in healthy people, however there is lack in literary works investigating ulcers and lower limb complications.

**Objectives:** The aim of the present study is to investigate health-related quality of life and foot function in patients affected by SSc with or without ulcers.

**Methods:** 215 patients (mean age 48,6 years SD ±12,3) completed four questionnaires: Short-Form 36 (SF-36) and Health Assessment Questionnaire (HAQ) for quality of life, Foot Function Index (FFI) for foot function, Cardiff Wound Impact Scale (CWIS) for patients with ulcers only (88). Demographic data were also investigated such as sex, occupation and living place. In addition, further information about type of SSc, age at diagnosis of SSc, age at first Raynaud phenomenon, podiatric assessment and orthopaedic insoles or shoes wear was inquired.

**Results:** SF-36 scores were significantly lower in patients with ulcers than in patients without ulcers ( $p=0,001$ ) as regards the physical component score (PCS). PCS was also positively correlated to its own sub-domain Physical Function ( $R=0,81$ ), Role Physical ( $R=0,72$ ) and Body Pain ( $R=0,71$ ). SF-36 Mental component score (MCS) was positively correlated to its own sub-domain Mental Health ( $R=0,85$ ) and Role Emotional ( $R=0,77$ ). HAQ scores were significantly higher in patients with ulcers than in patients without ulcers ( $p<0,001$ ). PCS was negatively correlated to the HAQ ( $R=0,75$ ). FFI scores were significantly higher in patients with ulcers than in patients without ulcers ( $p=0,001$ ). CWIS scores were pretty high (50,6% SD ±26,6). Chi-square-test wasn't statistically significant ( $p=0,926$ ): ulcers and age are not correlated. Only 17 patients out of 215 were used to wear orthopaedic footwear, 38 wore foot orthoses and 71 were informed about the figure of the podiatrist.

**Abstract AB1465-HPR – Table 1.** Questionnaire scores and P-value

Group	SF-36		HAQ	FFI	CWIS
	PCS	MCS			
All patients	35.78±10.3	39.40±11.1	0.90±0.6	23.16%±24.7	-
Patients with ulcers	33.0±9.4	37.7±11.6	1.11±0.6	28.9%±27.5	50.6%±26.6
Patients without ulcers	37.73±10.5	40.6±10.5	0.74±0.6	19.1%±21.6	-
P-value	0.001	0.07	<0.001	0.001	-

**Conclusions:** According to the literature,<sup>1-2</sup> patients with SSc show an impaired quality of life compared to healthy subjects. The majority of patients are unemployed or stay at home due to disability. Furthermore, in case of ulcers, the more pain grows, the more foot function is reduced as well as quality of life gets worse. Wounds could be considered as a biomarker of pathology progression; therefore, clinicians should pay more attention in prevention improving lower limb assessment and treatment.

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**AB1466-HPR EFFECTS OF SHORT-TERM NEUROMUSCULAR ELECTRICAL STIMULATION ON PAIN, QUADRICEPS MUSCLE STRENGTH, PHYSICAL PERFORMANCE AND KINESIOPHOBIA IN PATIENTS WITH OSTEOARTHRITIS OF THE KNEE (A PRELIMINARY STUDY)**

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**Background:** Osteoarthritis may cause fear of movement, increased pain, detention, reduced muscle strength, and range of motion. Quadriceps muscle strengthening is a common goal in the management of knee osteoarthritis. Neuromuscular electrical stimulation (NMES) is considered to be an effective technique for strengthening the quadriceps muscle. It has been used to treat patients with knee osteoarthritis.

**Objectives:** The aim of the study is to determine the effect of short-term neuromuscular electrical stimulation on pain, strength, physical performance and kinesophobia in patients with knee osteoarthritis.

**Methods:** 20 patients (9 women 11 men, who were 40–75 years, diagnosed as stage 2 or stage 3 knee OA according to Kellgren-Lawrence criteria, participated to the study. Socio-demographic data of all individuals were recorded. The cases were randomly divided into two groups as control group (n=10) and study group (n=10). Control group treatment consisted of conventional physiotherapy program (hot pack, transcutaneous electrical nerve stimulation (TENS), ultrasound and home exercises). In the study group, NMES application was added to conventional physiotherapy program. Both groups were treated five days/week for two weeks. The patients were assessed; before and after treatment. The pain was assessed by Visual Analogue Scale (VAS). Muscle strength was assessed by manual muscle test. Stair-climb test was performed to evaluate physical performance. Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) was used to assess functional disability. Kinesiophobia was evaluated by Tampa Kinesiophobia Scale.

**Results:** There was no significant difference between control and study groups in terms of age, Body Mass Index, the scores of VAS value, Quadriceps Muscle strength, Stair-climb test, WOMAC and TAMPA scores at baseline ( $p>0.05$ ). Post treatment VAS value decreased significantly in both groups compared with pretreatment values ( $p<0.05$ ). However the scores of Quadriceps Muscle strength, Stair-climb test, WOMAC and TAMPA did not change significantly in both groups after the treatment. When compared the two groups, all the outcomes were similar ( $p>0.05$ ) after the treatment.