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SAT0592 EFFECT OF INTERFERENTIAL CURRENT THERAPY IN PATIENTS WITH SUBACROMIAL IMPINGEMENT SYNDROME: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY

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Background: Shoulder pain is one of the most common types of musculoskeletal pain in the adult population. Subacromial impingement syndrome (SIS) has been reported to be the most frequent etiologic factor for shoulder pain (1). A conservative approach comprising non-steroid anti-inflammatory drugs (NSAID), subacromial injections, exercise, and several physical therapy agents is recommended as the first step treatment for SIS (2). Although interferential current (IFC) is a common electrotherapeutic modality used to treat musculoskeletal pain, there isn't any randomized controlled trial investigating its clinical efficacy on SIS (3).

Objectives: To investigate the effectiveness of IFC treatment in patients with SIS. **Methods:** In this double blind, placebo controlled study, patients with shoulder pain, who had been diagnosed SIS according to clinical evaluation and subacromial injection test were randomly assigned to the IFC or placebo groups. Exercise, cryotherapy, and NSAID were applied to the all groups. Daily 20 min per session, 5 days per week, for 2 weeks 10 sessions IFC with alternative method were applied to the IFC group while sham IFC therapy were applied to the placebo group with the same protocol. Visual analog scale (VAS), Constant Murley Scale (CMS) and Shoulder Disability Questionnaire (SDQ) were used for evaluation at baseline, post-treatment and 1 month post-treatment.

Results: A total of 60 patients were completed the study; 26 (43.3%) were male and mean age was 50.02±9.10 years. There was not a significant difference in demographic and clinical data of the patients between the IFC (n=30) and placebo (n=30) groups (p>0.05). Significant improvement in all parameters was observed on post-treatment and 1 month post-treatment evaluations compared to baseline evaluations in both groups (p<0.01). Comparison of the VAS, CMS and SDQ scores between the two groups did not show significant difference either pre-treatment or post-treatment (p>0.05).

Conclusions: This study showed that IFC treatment does not provide additional benefit to NSAID, cryotherapy and exercise program in the treatment of SIS. Further studies are needed to investigate the long-term effects of IFC therapy.

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SAT0593 GENDER-SPECIFIC ASSOCIATIONS BETWEEN FAT MASS AND MUSCULOSKELETAL PAIN IN COMMUNITY RESIDENTS: A 3-YEAR LONGITUDINAL STUDY

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Background: Increase in fat mass is correlated with musculoskeletal pain

Objectives: In this study, we sought to delineate the prospective relationship between fat mass parameters and the musculoskeletal pain in Korean community residents.

Methods: In the Korean Health and Genome Study, 1,325 participants (mean age 60.2 years, 56.2% women) who completed pain questionnaires and underwent dual x-ray absorptiometry to calculate body composition had 3 year follow-up data on pain. Pain was categorized according to number of pain regions. After 3 years of follow-up, subjects were classified into the followings: 1) no pain both at baseline and at 3 years (no pain), 2) any pain (one, two or more, or widespread regions) at baseline and no pain at 3 years (transient pain), 3) no pain at baseline and any pain at 3 years (new pain) 4) any pain both at baseline and at 3 years (persistent pain). 1) and 2) were grouped as no/transient pain group (no pain) and 3) and 4) as new/persistent pain group (pain)

Results: Female gender and obesity were 2 significant factors associated with the persistence or development of pain. Total fat mass and fat:muscle mass ratio were significantly correlated with pain, and the odds ratios for pain were significantly increased in subjects in the highest quartile of fat muscle ratio after adjustment among female subjects only. Among normal weight subjects, those without metabolic syndrome were less likely to belong to the pain group, especially among women.

Conclusions: The association of fat mass and pain was only significant among females

Disclosure of Interest: None declared

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SAT0594 THE EFFECT OF RADIAL EXTRACORPOREAL SHOCK WAVE THERAPY (RESWT) IN THE TREATMENT OF TRIGGER FINGER

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Background: Trigger finger is a stenotic tendovaginitis characterized by hand pain and dysfunction, commonly encountered and easily recognizable (1). RESWT is frequently used in the treatment of soft tissue pathologies such as lateral epicondylitis, plantar fasciitis and calcific rotator cuff tendinitis (2-3). However, there is no study examining whether RESWT is effective on the trigger finger or not.

Objectives: The aim of this study was to investigate the effect of Radial Extracorporeal Shock Wave Therapy (RESWT) in the Treatment of Trigger Finger.

Methods: This study was carried out on 16 patients (18 patient hand) who had been diagnosed with trigger finger that grade 1,2,3 according to quinnell classification. Patients were carried out as a single group. 16 patients (18 patient hand) with trigger fingers were applied to ten-sessions, twice a week of RESWT (2000 impulses, 2 bar, 10 Hz). Pain scores (Numeric Pain Rating Scale - NRS), general functional capacities (The Disabilities of the Arm, Shoulder and Hand Score (Quick-DASH)), range of motion, grip strength (GS) and pinch strenght (PS) were assessed at every week for five weeks during treatment and 3 months after treatment.

Results: 13 female and 3 male patients over 18 years of age were evaluated. In the evaluations performed every week during 10 sessions of RESWT treatment and 3 months after treatment, decrease in pain levels and increase in general functional capacity, range of motion, grip strength and pinch strength were observed in the patients treated (p<0.001) (table 1).

Table 1: Comparison of range of motion of the thumb finger and 2-5. Finger, comparison of pain, grip strenght, pinch strenght and general functional capacity

	1 week (IQR)	2 week (IQR)	3 week (IQR)	4 week (IQR)	5 week (IQR)	3 month (IQR)	p value
MCF joint flexion	45.00 (40.00;50.00)	48.00 (40.00;50.00)	49.00 (40.00;52.00)	50.00 (40.00;58.00)	50.00 (40.00;60.00)	50.00 (50.00;65.00)	0.004
IF joint flexion	15.00 (00.00;35.00)	20.00 (00.00;42.00)	28.00 (00.00;45.00)	39.50 (00.00;50.00)	45.00 (00.00;60.00)	55.00 (00.00;60.00)	<0.001
MCF joint flexion 2-5	80.00 (50.00;90.00)	80.00 (50.00;90.00)	82.50 (52.00;90.00)	82.50 (54.00;90.00)	82.50 (55.00;90.00)	90.00 (60.00;90.00)	<0.001
PIF joint flexion 2-5 finger	100.00 (40.00;110.00)	100.00 (50.00;115.00)	100.00 (55.00;115.00)	100.00 (65.00;118.00)	100.00 (70.00;120.00)	110.00 (90.00;120.00)	<0.001
DIF joint flexion 2-5 finger	50.00 (20.00;75.00)	55.00 (20.00;75.00)	60.00 (30.00;77.00)	61.50 (40.00;77.00)	61.50 (50.00;80.00)	70.00 (60.00;85.00)	<0.001
NRS	7.00 (0.00;10.00)	6.00 (0.00;7.00)	4.00 (0.00;7.00)	3.00 (0.00;7.00)	2.00 (0.00;7.00)	0.00 (0.00;7.00)	<0.001
GS	16.00 (4.00;30.00)	17.00 (12.00;40.00)	16.00 (10.00;36.00)	18.00 (8.00;36.00)	19.00 (8.00;28.00)	18.00 (12.00;36.00)	=0.001
PS	3.00 (1.00;10.00)	3.50 (2.00;11.00)	3.00 (1.00;9.00)	4.00 (2.00;12.00)	4.00 (2.00;12.00)	4.00 (2.00;12.00)	<0.001
Quick-DASH	42.00 (0.00;70.45)	39.76 (0.00;70.45)	38.40 (0.00;88.18)	18.18 (0.00;70.45)	4.54 (0.00;88.18)	0.00 (0.00;25.00)	<0.001

Friedman test, p<0.001, MCF: Metacarpofalangeal, IF: Interfalangeal, PIF: Proximalinterfalangeal, DIF: Distalinterfalangeal, IQR: Interquartile Range

Conclusions: According to our results; RESWT might be an effective method to decrease pain severity, improve general functional capacity, range of motion, grip strength and pinch strength in patients with trigger finger.

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SAT0595 EFFECTIVENESS OF SHORT WAVE DIATHERMY TREATMENT IN PATIENTS WITH SUBACROMIAL IMPINGEMENT SYNDROME AND VALUE OF NIGHT PAIN ON PATIENT SELECTION: A DOUBLE-BLIND, RANDOMIZED, PLACEBO-CONTROLLED TRIAL

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Background: Shoulder impingement syndrome (SIS) is a common causes of shoulder pain and the night pain is a frequent symptom of this condition (1,2). Short wave diathermy (SWD) is a deep diathermic agents used in the treatment of

musculoskeletal system disorders. Local inflammation could be the major cause of night pain, and using a deep diathermic modality might be contradictory.

Objectives: Investigation of the effectiveness of short wave diathermy SWD treatment in patient with SIS and to emphasize the significance of night pain (NP) status on treatment response.

Methods: In this double-blind, randomized placebo controlled trial, 57 patients aged between 35 to 65 years, diagnosed as SIS were classified into two groups as night pain positive NP(+) (n=28) and night pain negative NP(-) (n=29). Both groups were randomly assigned to SWD treatment NP(+) n=14, NP(-) n=14 and sham NP(+) n=15, NP(-) n=14 subgroups. Exercise, cold pack application and a non-steroidal anti-inflammatory drug treatment were applied to all groups. 27.12 MHz continuous SWD (daily 20 min per session, 5 days per week, for 2 weeks, 10 sessions) was applied to the treatment groups while sham SWD was applied to the sham groups with the same protocol. Rest, activity and night visual analog scale (VAS), Constant (Murley) Score (CS) and Shoulder Disability Questionnaire (SDQ) were used for evaluation of patients at 2 weeks before the treatment, 1 month and 2 months after the treatment.

Results: There were no statistical differences between the SWD treatment and sham groups in all outcome parameters except for the Constant pain scores in NP (+) group. In NP(-) group, SWD treatment improved the parameters of pain, strength, total scores of CS, and SDQ compared to sham group at 1 month. SWD treatment was superior to sham for all parameters except for the Constant daily living activity scores at 2 months.

Conclusions: In conclusion, addition of 27.12 MHz continuous SWD treatment to conventional therapies provides long term benefits when compared to sham SWD in terms of rest and activity VAS scores, Constant-Murley scores, and SDQ scores in SIS patients without night pain. However, there was no convincing evidence that SWD treatment is of additional benefit in SIS patients with NP. Therefore; night pain as a symptom should be regarded in the selection of treatment modalities in order to use the deep heaters effectively in the management of SIS.

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SAT0596 EFFICACY OF EPIDURAL STEROID INJECTION IN LUMBAR SPINAL STENOSIS IS NOT RELATED TO THE DEGREE OF SEVERITY BY MRI

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Background: Lumbar spinal stenosis (LSS) is a common degenerative disease. Treatment modalities for LSS vary and include medication, exercise, interventional techniques, and surgery. Epidural steroid injection has been used for the treatment of LSS with variable results. The relationship between severity of lumbar spinal stenosis and efficacy of lumbar epidural steroid injection is still undetermined.

Objectives: The aim of our study was to determine the relationship between the severity of LSS using MRI grading system and the response to lumbar epidural steroid injection.

Methods: Thirty patients with degenerative LSS were enrolled in this prospective study. All subjects underwent lumbar spine MRI (T2-weighted axial images). LSS was graded using MRI grading system (grade 1 = mild stenosis with separation of all cauda equine; grade 2 = moderate stenosis with some cauda equine aggregated; grade 3 = severe stenosis with none of the cauda equine separated). All fluoroscopy guided transforaminal epidural steroid injections (FG- TFESI) were performed in the procedure room. Outcome measures were obtained using the visual analogue scale (VAS) for both back and leg pain, Oswestry disability index (ODI), Roland 5-point pain scale, walking tolerance and patient's satisfaction scale at 2 and 8 weeks post-treatment.

Results: Thirty LSS patients treated with FG- TFESI, who were completely followed up, were included in this study, the injection rate was one injection per patient. The patients were followed at 2 weeks and 8 weeks. Fifty-six percent of patients at 2 weeks and 70% at 8 weeks had a successful outcome, reporting at least a >50% reduction between pre-injection and post-injection visual analogue pain scores. Roland 5 point pain scale showed pain reduction in 50% of patients by (26%) at 2 weeks and in 70% of patients by 50% pain reduction at 8 weeks. Oswestry low back pain disability questionnaire (ODI) scores showed statistically significant improvement from initial scores to 2 weeks and from to 8 weeks in 70% of patients. Walking tolerance showed improvement at 2 weeks in 50% of patients and at 8 weeks in 70% of patients. The outcome was statistically significant even in severe stenotic patients when comparing initial scores of moderate and severe stenosis at 2 weeks and 8 weeks scores in walking tolerance ($P=0.006$), Back VAS ($P=0.717$), Leg VAS ($P=0.139$), ODI (0.139), and Roland ($P=0.001$).

Conclusions: FG-LESI may reduce pain and improve walking tolerance in the short term for the treatment of patients with LSS for a period of 8 weeks. The

outcome does not seem to correlate with the degree of lumbar spinal stenosis. Patients with severe LSS may have the same chance to get benefits from FG-LESI as patients with moderate LSS.

Disclosure of Interest: None declared

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SAT0597 RELATIONSHIP BETWEEN LUMBAR DISC HERNIATION AND BENIGN JOINT HYPERMOBILITY SYNDROME

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Background: Benign joint hypermobility syndrome (BJHS) can present with a wide variety of musculoskeletal disorders. Benign joint hypermobility syndrome (BJHS) is a hereditary disorder characterized by the presence of musculoskeletal symptoms in persons with generalized joint laxity in the absence of systemic rheumatologic disease (1–3). Lumbar disc herniation (LDH) is a common cause of low back pain. On the other hand, low back pain may be a presenting symptom in patients with BJHS.

Objectives: to evaluate relationship between Lumbar disc herniation and BJHS.

Methods: The study included 100 patients diagnosed with LDH depending on history, clinical examination and MRI findings and another 100 healthy control participants. All, patients and healthy controls were assessed for BJHS using the revised (Brighton 1998) criteria.

Results: the mean age was (35.4±8.9) year and (33.72±8.3) for patients and controls respectively, there were 43 males and 57 females in each group. The mean BMI was (27.6±4.8) kg/m² in patients and (28.3±4.6) in controls. No significant differences found between the groups regarding the age, sex and BMI in all comparisons (P -value>0.05). The mean Beighton score was significantly higher among patients in comparison to controls; it was (2.3±1.62) versus (1.2±1.35) in controls group; on the other hand major and minor criteria were significantly more prevalent among patients rather than controls, in all comparisons (P -value<0.05). BJHS was more prevalent among patients rather than controls, 55% of the patients had BJHS compared to 21% of controls, the odds ratio was (4.6) and (P -value <0.05). BJHS was more prevalent among females compared to males, from the total number of all participants, BJHS was present in 76 participants, and of them 47 were females versus 29 males, (P -value <0.05).

It had been significantly found that subjects with BJHS in both groups (patients and controls) were relatively shorter than those without BJHS, P -value <0.05. The correlation analysis of BJHS with the MRI findings of LDH in patients group showed no significant differences among patients with and without BJHS, in all comparisons P -value >0.05.

Conclusions: BJHS is more prevalent among patients with LDH. There is no significant relationship between presence of BJHS in LDH patients and MRI findings.

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SAT0598 EVALUATION OF THE QUALITY OF SEXUAL LIFE DURING CHRONIC LOW BACK PAIN

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Background: Sexual life has an important role in preserving the good quality of life of patients and their partners. Chronic low back pain (CLBP) as well as other musculoskeletal diseases, can affect all life activities including sexual function.

Objectives: The aim of this study is to assess the impact of chronic low back pain on sexual life and to identify the associated factors.

Methods: It's a study of 144 patients suffering from chronic low back pain, during a period of nine months (from February to October 2016). We have specifically studied the relationship between chronic low back pain and sexual quality of life, using the Sexual Quotient (QS) (a validated questionnaire), which consists in 10 questions, rated each one from 0 to 10, to have a final score rated from 0 to 100.

Results: The average age of our patients was 53.87 years [23–79 years], with a female predominance in 64% of cases. The mean visual analogue scale for pain was 4.72 [1–9].

The average duration of low back pain was 6.5 years. The average score of Quebec was 45.3 [5–92], concerning the mean Dallas score, the segmental results were as follows: 53.1% of impact on daily activities, 47.6% of impact on work/leisure ratio, 45% of impact on anxiety/depression ratio and 33.4% of impact on sociability.

In our study, 57.2% of cases were under analgesic treatment, 85.5% were under