

[2] Fredericson M, Wolf C. Iliotibial band syndrome in runners: innovations in treatment. *Sports Med.* 2005;35(5):451–9.

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SAT0604 AUTOLOGOUS BLOOD AND CORTICOSTEROID LOCAL INJECTION IN TREATMENT OF PLANTAR FASCIITIS (RANDOMIZED, CONTROLLED MULTICENTER CLINICAL TRIAL)

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Background: Plantar fasciitis is the most common cause of heel pain. Local injection modalities are among treatment options in patients with resistant pain.

Objectives: The aim of the present study was to evaluate the effect of local autologous blood compared with corticosteroid local injection in treatment of plantar fasciitis.

Methods: In this randomized controlled multicenter study, 36 patients with chronic plantar fasciitis were recruited. Patients were allocated randomly into 3 treatment groups: local autologous blood, local corticosteroid injection and control groups receiving no injection. Patients were assessed with Visual Analogue Scale (VAS), Pressure Pain Threshold (PPT) and Plantar Fasciitis Pain/Disability Scale (PFPS) before treatment, 4 and 12 weeks post therapy.

Results: Variables of pain and function improved significantly in both corticosteroid and autologous blood groups compared to control group. At 4 weeks following treatment, patients in corticosteroid group had significantly lower levels of pain than patients in autologous blood and control groups (higher PPT level, lower PFPS and VAS). After 12 weeks of treatment both corticosteroid and autologous blood groups had lower average levels of pain than control group. The corticosteroid group showed an early sharp and then more gradual improvement in pain scores but autologous blood group had steady gradual drop in pain.

Conclusions: Autologous blood and corticosteroid local injection both can be considered as effective methods in the treatment of chronic plantar fasciitis. These treatments decrease pain and improve function significantly compared to control group.

Disclosure of Interest: None declared

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SAT0605 LOCAL PROGESTERONE INJECTION: NEW OPTION FOR MANAGEMENT OF CARPAL TUNNEL SYNDROME

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Background: A number of studies, have demonstrated the neuroprotective effects of progesterone and its influence on the recovery after neural injury. Few studies investigated the efficacy of local progesterone in Carpal Tunnel Syndrome.

Objectives: The objective of this study was to compare the long term effects of progesterone versus corticosteroid local injections in patients with mild and moderate carpal tunnel syndrome.

Methods: In this randomized clinical trial, 78 hands with Carpal Tunnel Syndrome were assigned to two groups. Patients were treated with a single local injection of triamcinolone acetonide in one group and single local injection of hydroxy progesterone in the other group. Variables including pain (based on Visual Analogue Scale), symptom severity and functional status (based on Boston/Levine symptom severity and functional status scale) and nerve conduction study were evaluated before and 6 months after the treatments.

Results: All outcome measures including pain, functional scales and electrophysiologic findings improved in both corticosteroid and progesterone groups and there were no meaningful differences between two groups regarding mentioned variables. However, functional outcome was significantly better in progesterone compared to corticosteroid group at 6 month follow up ($P=0.04$).

Conclusions: This study demonstrated the efficacy of progesterone local injection in mild and moderate CTS at long term follow up. Furthermore, local progesterone can be superior to corticosteroid injection for relieving symptoms and improving functional and electrophysiologic findings at long term follow up.

Disclosure of Interest: None declared

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SAT0606 IS THE LEVEL OF PHYSICAL ACTIVITY AN IMPORTANT FACTOR FOR LOW BACK PAIN AMONG STUDENTS OF UNIVERSITY?

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Background: Back pain is a major global health problem, causing greater disability worldwide than any other condition. Regular physical activity is widely believed to have important health benefits, such as improving quality of life and mobility, and reducing disabilities. Conversely, lack of physical activity is considered a risk factor for increasing chronic diseases, functional dependence

and mortality. Patients with low back pain (LBP) often report disability to perform daily activities. Also, decreased physical activity level can lead to low back pain.

Objectives: The aim of the study was to determine whether increasing the level of physical activity affects the low back pain or not in the population of university students.

Methods: The cross-sectional study included 350 students (181 females and 169 males) with a mean age of 19.8 ± 1.9 years. LBP was determined using the validated Oswestry Disability Index (ODI). ODI consist of ten items and are completed in reference to the patient's functional status "today". Physical activity level was evaluated by the short form of the International Physical Activity Questionnaire (IPAQ). IPAQ is a scale to be recorded at different levels of physical activity time in the last week. IPAQ is a scale to be recorded at different levels of physical activity time in the last week. Individuals whose score is lower than 600 MET are described as inactive (IPAQ 1), between 600–1500 MET (IPAQ 3) are described as minimal active and higher than 3000 MET (IPAQ 5) are described as active. For the statistical analyzing we used spearman correlation test.

Results: According to the short form of IPAQ, %14.8 percent of students were found inactive, %48.1 percent of students were found minimal inactive and %37.1 percent of students were found active. The total score of Oswestry disability index was found 6.2 ± 5.0 . There was a significant difference between the Oswestry disability index score of inactive, minimally active and active groups ($p=0.02$). In addition to this, between the Oswestry disability index and total score of IPAQ was found a weak correlation in the negative direction ($p=0.01$; $r=-0.184$). Between the IPAQ which means vigorous intensity activity, and Oswestry disability index was found a weak correlation in the negative direction ($p=0.00$; $r=-0.190$). And also between IPAQ3, which means moderate intensity activity, and Oswestry disability index was found a significant but weak correlation in the negative direction ($p=0.03$; $r=-0.157$). Between Oswestry disability index and sedentary activity and walking was not found any significant correlation ($p>0.005$).

Conclusions: According to our study, increasing the level of physical activity may reduce low back pain. Especially vigorous and moderate intensity activity can be effective in prevention from low back pain. For reducing of low back pain, sedentary activity and walking did not have any significant effect in our study. Therefore, the level of physical activity should be increased at the young age to prevent of low back pain which is a major health problem.

References:

[1] Saglam, Melda, et al. International physical activity questionnaire: reliability and validity of the Turkish version. *Perceptual and motor skills* 111.1 (2010): 278–284.

[2] Fairbank, Jeremy CT, and Paul B. Pynsent. The Oswestry disability index. *Spine* 25.22 (2000): 2940–2953.

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SAT0607 DISCOVERY OF A SMALL MOLECULE INHIBITOR OF THE WNT PATHWAY (SM04755) AS A POTENTIAL TOPICAL TREATMENT FOR TENDINOPATHY

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Background: Tendinopathy is an inflammatory and degenerative disorder caused by injuries or overuse. It can progress to a chronic condition with failed healing, tendon fibrosis and micro-tears that lead to pain and sometimes rupture. Current therapeutic options focus mainly on pain relief rather than treatment of underlying disease. The Wnt pathway is upregulated in tendinopathy and has an important role in inflammation, fibrosis and tenocyte differentiation.

Objectives: SM04755, a novel, topical Wnt pathway inhibitor, was evaluated in preclinical studies to determine its potential to inhibit inflammation, reduce fibrosis and increase tenocyte differentiation, thereby promoting tendon healing.

Methods: Anti-inflammatory activity was measured by TNF- α and IL-6 secretion using ELISA in lipopolysaccharides (LPS) or anti-CD3/anti-CD28 stimulated peripheral blood mononuclear cells (PBMCs). Differentiation of human mesenchymal stem cells (hMSCs) and rat tendon derived stem cells (rTDSCs) into tenocytes was measured by high-content imaging for tenocyte markers scleraxis A (SCXA), tenomodulin and tenascin C. Pharmacokinetics were evaluated following topical application in rats. *In vivo* efficacy of SM04755 was evaluated in a single injection, collagenase-induced acute rodent tendinopathy model and a chronic, multiple injection, failed healing model, by scoring histological indicators of tendon health. Inflammation was measured by chemokine ligand 1 (CXCL1) levels in plasma by ELISA and pro-inflammatory markers (IL-6, TNF- α , IL-1 β , IFN- γ , IL-8) in the tendon by qPCR. Tendon regeneration and healing were evaluated by qPCR based gene expression of tenocyte differentiation markers SCXA, tenomodulin and tenascin C, Type I/Type III collagen ratio and polarized light microscopy using Sirius Red staining. Pain in the rodent model was evaluated by measuring weight distribution with an incapacitance meter.

Results: SM04755 potentially inhibited cytokine secretion in LPS and anti-CD3/anti-CD28 stimulated PBMCs ($EC_{50}=500$ nM). SM04755 induced expression of tenocyte markers in differentiated hMSCs and rTDSCs ($EC_{50}=200$ nM). A single topical application of SM04755 resulted in tendon concentrations $>EC_{50}$ for up to 24hrs, with minimal systemic exposure or toxicity. In both the acute and failed healing tendinopathy models, SM04755 (10mg/ml) treatment improved tendon morphology (Figure A), significantly increased mean tendon health