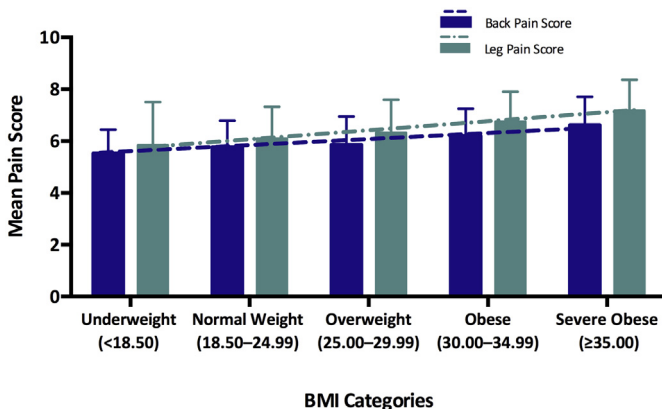


surgery, smoking status, work type, clinical diagnosis and relevant comorbidities. Back and leg pain were modelled separately.

Results: The mean age of the study population was 50.9 years and the mean BMI was 27.2kg/m²; 54% of the patients were women. The mean back and leg pain scores were 6.2 and 6.7 respectively. With greater BMI, there was a linear increase in both back and leg pain (see figure). In our fully adjusted model, a 5-point increase in BMI was associated with an increase in back (0.15 units [95% CI 0.04,0.27]) and leg (0.22 units [95% CI 0.10,0.33]) pain scores. Female gender (0.36 units [95% CI 0.12,0.61]), heavy workload (0.65 units [95% CI 0.33,0.97]), rheumatoid arthritis (0.79 units [95% CI 0.40,1.18]), previous spine surgery (0.52 units [95% CI 0.26,0.79]), and depression (0.57 units [95% CI 0.42,0.71]) were all associated with increased back pain. These variables, as well as smoking (0.35 units [95% CI 0.08,0.61]), were significant predictors of leg pain.

Conclusions: In this large cross sectional study of spine patients presenting to tertiary European centres, several variables were found to predict higher pain scores. Obesity, as measured by increased body mass index, was associated with increased back and leg pain but, on account of the low coefficients, whether this increase is clinically meaningful is questionable. Nevertheless, weight loss could be a strategy for modulating back and leg pain; for instance, apart from its direct effects, it has been shown elsewhere that a high BMI is associated with depression, a strong predictor of back pain and leg pain. We also found that heavy workload and smoking were significantly associated with both back and leg pain, in agreement with earlier epidemiological studies. It has been suggested that these variables contribute to pain by inducing degeneration of the intervertebral disc. However, as we and others have shown, the association of these variables with disc degeneration is marginal hence our results suggest they could influence the experience of pain directly though the mechanisms involved still require identification.



628 PRELIMINARY ANALYSIS OF THE CLINICAL PICTURE IN PATIENTS WITH SPONDYLOARTHRITIS DEPENDING ON THE TYPE AND SEVERITY OF CHANGES ON MRI

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Purpose: The aim of the study is to analyze the correlation between the type and severity of degenerative changes in the intervertebral disc in comparison to the incidence of neurological symptoms.

Methods: The study included 40 patients, 30 men and 10 women aged 52.2 ± 10.2 years. Mean index of BMI was 27.9±3.2 kg/m². Each patient underwent neurological examinations with 1.5 T MRI of the cervical and lumbar spine.

Results: Prolaps of nucleus pulposus observed in each patient in mean 4 ± 2 vertebrae. The most frequently was the second stage (76.4% of disc diseases, 92.5% of patients). Less frequently there were the third stage (37.5% of patients, 17.2% of disc diseases), the first (10% of patients, 4.5% of disc diseases) and the fourth (2 patients, 1.9% of disc diseases) (table 1). Protrusion was observed significantly statistically frequently than bulging, extrusion and sequestration (1, 3 and 4stages: all p<0.0001), 3rd stage significantly statistically frequently than 1 (0.0039) and 4: (0.0004). The most frequently we observed deminishment of lateral recesses and intervertebral foramens : in 36 (90%) patients,

compression on roots of spinal nerves: in 21 (52.5%) patients , and stenosis of spinal canal - in 9 (22.5%) pts, spondylolisthesis: in 5 (12.5%) pts. Spondylolisthesis and stenosis of spinal canal observed only in stage 2 and 3. Deminishment of lateral recesses and intervertebral foramens and compression on roots of spinal nerves we observed significantly statistically frequently in stage 4 and 3 (88.9% and 55.6%, in both cases p<0,001). Deminishment of lateral recesses and intervertebral foramens were accompanied with 60% of disc diseases in stage 2 (protrusion) and 88.9% in stage 3 (extrusion). Compression of roots of spinal nerves we observed in 20% of cases and 55.6% of discopathy. Neurological deficits (motor and sensory) observed in 44.4% of patients with stenosis of spinal canal and 12.9% of patients without stenosis (p=0.0373). Neurological deficits significantly statistically frequently observed in 4th stage of discopathy (100%) than the other stages of patients (15.8%, p=0.0359).

Conclusions: Neurological deficits within patients observed with sequestration and stenosis of spinal canal in MRI examinations.

Table 1. The stages of disc diseases

The stages of disc diseases	Number of pts (n=40)	Number of discs (n=157)	Number of discs in relation to patients with discopathy
Bulging	4 (10.0%)	7(4.5%)	1.75
Protrusion	37(92.5%)	120(76.4%)	3.24
Extrusion	15(37.5%)	27(17.2%)	1.8
Sequestration	2(5%)	3(1.9%)	1.5
p	<0.0001	,0.0001	-

Table 2. Correlation of morphological changes in spine with neurological symptoms

Morphological changes in spine	Absent - A Present - P	Neurological deficits N=8	p
Spondylolisthesis	A - N=35 P - N=5	6 (17.1%) 2 (40%)	0.2568
Stenosis of spinal canal	A - N=31 P - N=9	4 (12.9%) 4 (44.4%)	0.0373
Deminishment of lateral recesses and intervertebral foramens	A - N=4 P - N=36	1 (25%) 7 (19.4%)	1.000
Compression of roots of spinal nerves	A - N=19 P - N=21	3 (15.8%) 5 (23.8%)	0.6984
Bulging	A - N=36 P - N=4	8 (22.2%) 0	0.5658
Protrusion	A - N=3 P - N=37	0 8 (21.6%)	1.000
Extrusion	A - N=25 P - N=15	4 (16.0%) 4 (26.7%)	0.4439
Sequestration	A - N=38 P - N=2	6 (15.8%) 2 (100%)	0.0359

Stem/Progenitor Cells

629

LOCALLY ADMINISTERED ADIPOSE DERIVED MESENCHYMAL STEM CELLS REINFORCE THEIR ANTI-INFLAMMATORY EFFECT THROUGH IL-1β MEDIATED ATTRACTION OF NEUTROPHILS INTO KNEE JOINTS WITH EXPERIMENTAL OSTEOARTHRITIS

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Purpose: Osteoarthritis (OA) is characterized by cartilage breakdown and ectopic bone formation in joints. Recent studies have shown that low grade synovial inflammation, reflected by inflammatory factors like interleukin-1 beta (IL-1β), contributes to joint pathology. Recently we found that adipose derived mesenchymal stem cells (ASCs) exhibit anti-inflammatory characteristics and reduce joint pathology after local application into mouse knee joints with experimental OA. This anti-inflammatory effect is only observed after intra-articular injection in early but not late phase OA, suggesting that the effect may be mediated by pro-inflammatory mediators. Our objective is to study the effect of IL-1β on the anti-inflammatory potency of ASCs in early OA.

Methods: Experimental OA was induced after injection of collagenase into murine knee joints (CIOA). Total knee joints were stained with haematoxylin/eosin and the PMN specific antibody NIMPR14. ASCs were isolated from adipose tissue and stimulated with IL-1β or interferon-gamma (IFN-γ). Gene expression in synovium and stimulated cells were analyzed using qPCR. Protein levels of chemokines and cytokines were