MUSCULAR-SKELETAL DISORDERS – Clinical Outcomes Studies

PMS1
THE EFFECT OF POSITIONING THE LOWER EXTREMITIES ON POSTOPERATIVE BLEEDING AFTER TOTAL KNEE REPLACEMENT

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OBJECTIVES: Postoperative blood-saving is high-priority after every planned surgery. The aim of this study was to analyze the effect of positioning of lower extremities on the postoperative bleeding after total knee replacement surgery. METHODS: Sixty patients from the orthopaedic department of Zala County Hospital who were operated on for insertion of a unilateral total knee prosthesis with cement and got autologous blood infusion (age 55-80 years), were randomized into three groups. In Group I (n=20), patients were in normal lying position, in Group II (n=20), hips were positioned in flexion and knee in extension and in Group III (n=20), hips and knee were positioned in flexion in the so-called knee flexion technique, the surgeon and the anicoagulant treatments were the same. Data collection: medical records, haemoglobin and haematocrit values. For the clinical parameters, t-tests, ANOVA and Scheffe post hoc tests were used. Statistical significance was established at a level of p < 0.05. Results: During the first six postoperative hours positioning not affected significantly on the volume of bleeding and recirculated blood volume (Group I: 615.6±247.3, Group II: 600.3±358.2, Group III: 715.6±930.3 mL). ANOVA: p=0.714, post hoc: p1-2=0.995, p1-3=0.805, p2-3=0.751, either in hours 6-72 (Group I: 775.0±227.6, Group II: 762.0±332.8, Group III: 960.0±400.6 mL, p=0.335; p1-2=0.996, p1-3=0.462, p2-3=0.414). Most units of homologous transfusion were needed in Group II (20 units). Position had no effect on the intensity of pain and was influenced by the range of motion of the knee (p=0.068 vs. p=0.075) in haemoglobin and haematocrit values (p=0.362 vs. p=0.559). CONCLUSIONS: These results of the present study suggest that the postoperative positioning of the lower extremities after knee replacement not affected the postoperative bleeding, the pain and the range of motion of the knee joint.

PMS2
RHEUMATOID ARTHRITIS AND ISCHEMIC HEART DISEASE IN PATIENTS FROM BLUMENAU - BRAZIL

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OBJECTIVES: Patients with rheumatoid arthritis (RA) have a higher risk of ischemic cardiovascular events compared with the general population. This would be explained not only by the greater presence of traditional risk factors, but also by the systemic inflammatory nature of arthritis. To compare the prevalence of ischemic heart disease (IHD) in a target RA population with the international prevalence data. METHODS: A longitudinal study including 183 adult patients with code MOS-06 (ICD-10) attended in primary or secondary care units from Blumenau city, southern Brazil, in 2014. Data collection was performed through structured personal interview and was necessary, later by phone. The presence of IHD was defined as acute myocardial infarction, unstable angina, percutaneous coronary intervention or coronary artery bypass graft that have occurred after the diagnosis of RA. RESULTS: 153/183 patients were female (83.6 %), mean age of 56.9 years and disease duration of 21 years. RA patients were more likely to suffer from hypertension (54.6 %), diabetes (29.5 %), hypercholesterolemia (35.1 %), and smoking habit (28 %). New arthritis diagnosis was 5.3 %, and 21.3 % were taking thiazides, low-dose aspirin, and NSAIDs, respectively. CONCLUSIONS: These results of the present study suggest that the prevalence of coronary ischemia in patients with rheumatoid arthritis from Blumenau is similar to the prevalence observed in other countries.

PMS3
INCREASED RISK OF OSTEOPOROSIS IN DEPRESSED PATIENTS: A REAL WORLD DATA STUDY CONDUCTED IN ITALY

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OBJECTIVES: Depression is a chronic debilitating disease with high prevalence that considerably affects quality of life. The relationship between depression and osteoporosis has been demonstrated, but the evidence is heterogeneous. The aim of the present study is to investigate about this relationship in the Italian primary care setting. METHODS: This was a retrospective analysis based on data extracted from Italian IMS Health Longitudinal Patient Database. Two cohorts have been defined: patients with a diagnosis of Depression (Index Date) during the period January 2004 - December 2010 and without neither Depression neither Osteoporosis diagnosis during the five years period preceding the Index Date, patients with a first contact (Index Date) during the period January 2004 - December 2010 that are not in the previous cohort (free from Depression and Osteoporosis). Results: Depression incidence rates have been separately calculated in the two cohorts and Osteoporosis cumulative incidence curves have been estimated using Kaplan Meier methods and compared. The Cox proportional hazard models were performed. RESULTS: Osteoporosis incidence was higher in the cohort of depressed patients (2.33 cases per 100 person years vs 1.22 cases per 100 person years) and results were confirmed by the log rank test (p<0.001). Increased risk of developing osteoporosis for depressed patients was shown both by univariate and multivariate Cox proportional hazard model (HR=1.75, CI=[1.71, 1.78]) and multivariate proportional hazard model (HR=1.5, CI=[1.3, 1.17]). CONCLUSIONS: Results from this study suggest that the relationship between Depression and Osteoporosis is confirmed also in the primary care setting in Italy.

PMS4
APPLYING WEIGHTED CUMULATIVE EXPOSURE MODELS TO PATTERNS OF NONSPECIFIC SYMPTOM CONSULTATIONS FOR EARLY DIAGNOSIS: A PRIMARY CARE DATABASE STUDY OF KNEE PAIN AND OSTEOARTHRITIS

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OBJECTIVES: To develop and validate predictive models for estimating risk of early diagnosis of knee osteoarthritis (OA) by weighted cumulative exposure (WCE) function scores of knee pain consultations. METHODS: Both derivation and validation datasets were from an electronic healthcare record (EHR) database (Consultations in Primary Care [CPC]A) in England. WCE functions for modelling cumulative effect of time-varying knee pain consultations weighted by recency were derived as prognostic in a population based case-control sample and validated in a prospective cohort sample. Two sets of WCE function scores: WCE (Half-Normal) score and WCE (Spline) score were evaluated and compared on optimal combinations to show higher values and validated in a primary care cohort sample. RESULTS: People with the most recent and the most frequent knee pain consultations were more likely to have high WCE scores (both sets) and these were associated with increased risk of knee OA diagnosis both in derivation and validation phases. People with the most recent and the most frequent knee pain consultations were more likely to have high WCE scores (both sets) and these were associated with increased risk of knee OA diagnosis both in derivation and validation phases. Authors advice that models fit, discrimination, and calibration were observed for models with WCE (Spline). CONCLUSIONS: WCE functions can be used to model pre-diagnostic symptoms within routine EHR data and may provide novel low-cost predictive tools that may contribute to early diagnosis.

PMS5
CLINICAL EFFECTIVENESS OF BISPHOSPHONATES FOR PREVENTION OF FRACTURE IN PATIENTS WITH RHEUMATOID ARTHRITIS: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

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OBJECTIVES: To assess the relative efficacy of bisphosphonates (alendronate, risedronate, ibandronate and zolendronic) for the treatment of Osteoporosis using network meta-analysis (NMA). METHODS: A systematic review of randomised controlled trials (RCTs) conducted in patients with RA was used, following PRISMA guidelines. A network meta-analysis was used to determine the relative efficacy of treatments on four fracture outcomes (vertebral, non-vertebral, hip and wrist) and percentage change in femoral bone mineral density (BMD). Treatment effects were modelled using a network meta-regression. Where appropriate, inconsistency between direct and indirect evidence was addressed using node-splitting. RESULTS: 46 randomised controlled trials (RCTs) were identified. Twenty seven RCTs provided fracture data and 35 RCTs provided BMD data for analysis. Zoledronate was associated with the greatest treatment effect on vertebral fractures (HR 0.41, 95% CI 0.28-0.56) and percentage change in BMD but was not associated with reduced risk of hip fracture. CONCLUSIONS: These results suggest that zoledronate is the preferred treatment for patients with RA and BMD as well as fracture prevention.

PMS6
COMPLIANCE WITH ALLOPURINOL AMONG HYPERTENSIVE PATIENTS WITH GOUT AND THE RELATIONSHIP TO ONSET OF END-Stage RENAL DISEASE

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OBJECTIVES: To assess the relative efficacy of bisphosphonates (alendronate, risedronate, ibandronate and zolendronic) for the treatment of Osteoporosis using network meta-analysis (NMA). METHODS: A systematic review of randomised controlled trials (RCTs) conducted in patients with RA was used, following PRISMA guidelines. A network meta-analysis was used to determine the relative efficacy of treatments on four fracture outcomes (vertebral, non-vertebral, hip and wrist) and percentage change in femoral bone mineral density (BMD). Treatment effects were modelled using a network meta-regression. Where appropriate, inconsistency between direct and indirect evidence was addressed using node-splitting. RESULTS: 46 randomised controlled trials (RCTs) were identified. Twenty seven RCTs provided fracture data and 35 RCTs provided BMD data for analysis. Zoledronate was associated with the greatest treatment effect on vertebral fractures (HR 0.41, 95% CI 0.28-0.56) and percentage change in BMD but was not associated with reduced risk of hip fracture. CONCLUSIONS: These results suggest that zoledronate is the preferred treatment for patients with RA and BMD as well as fracture prevention.
PM57 REDUCTION IN C-REACTIVE PROTEIN WITH BIOLOGIC DRUGS IN RHEUMATOID ARTHRITIS AND SPONDYLITIS PATIENTS IN GERMAN RHEUMATOLOGIST PRACTICES
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OBJECTIVES: C-reactive protein (CRP) is one of the markers of inflammation in the body and a predictor of treatment outcome in patients with rheumatoid arthritis (RA) treated with biologic drugs. CRP levels >10 mg/L are associated with very high cardiovascular risk. The aim of this study was to evaluate the difference in mean CRP levels before and after the initiation of biologic drugs in German rheumatologist practices. METHODS: German Disease Analyzer database included 54 rheumatologist practices with data from 1,666 patients (mean age 52.1 years, 62% female) with a diagnosis of either rheumatoid arthritis (RA; ICD 10: M05, M06) or spondylitis (SF; ICD 10: M45, M46) with an initial biologic drug therapy. Clinical characteristics, adalimumab (inflammum) prescription (in 50% between January 2004 and December 2013 and documented CRP levels within one year pre-index and one year post-index were identified and descriptively analyzed. RESULTS: After the beginning of biologic drug therapy, CRP levels significantly decreased from a mean of 17.7 mg/L before the index date to 11.7 mg/L after the index date (33.9% reduction, p < 0.001). In male patients, the relative difference in CRP levels was significantly higher than in female patients (39.0% versus 29.8%). The relative difference decreased with an age (49.5% in the age group <40 years, 31.4% in age group 41-50, 31.8 in age group 51-60 and 25.9 in age group >60). CONCLUSIONS: In this retrospective database study, performed among 1,665 patients with rheumatoid arthritis or spondylitis, we observed significant reductions in CRP levels associated with male gender and younger age. These data have clinical relevance and significantly extend prior observational studies.

PM58 CLINICAL EVALUATION OF AMRATI D GUGGLU AND MANDOODA BHASMA IN OSTEOARTHRITIS PATIENTS
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OBJECTIVES: To compare the combined effects of Amritadi Guggulu and Mandoora Bhasma with Trayodashanga Guggulu in osteoarthritis patients. METHODS: A randomised single blind clinical study with pre-test and post-test design was adopted. The inclusion criterion of the patients includes Osteoarthritis of knee joints, age 52.1 years, 62% female) with a diagnosis of either rheumatoid arthritis (RA, ICD 10: M05, M06) or spondylitis (SF, ICD 10: M45, M46) with an initial biologic drug therapy. The examination was carried out in Zalaegerszeg in 2014. Thirty patients were involved (30-60y) who had cLBP because of sedentary work for many years. The participants received core stability training and traditional active and passive stretching exercises integrated with myofascial release technique. Data collected were strength and stability tests (DAVID 110,130 and modified plank tests), lumbar spine range of motion (Zebris-system), muscle stretching (David-conception), pain and functionality (Visual Analog Scale, Roland-Morris Scale) and general health status (physical examination, discharge report, self-made questionnaire). Descriptive statistics, t-test and chi²-test were used (IBM SPSS 19v). RESULTS: The trunk muscle forces (flexors p = 0.003, extensors p = 0.008) and the modified plank tests (prone and side position p = 0.001, prone position p = 0.040) showed significant changes in trunk muscle force, lumbar spine range of motion and significant improvements (p = 0.001). The level of pain decreased significantly (p = 0.001), similar to the Roland-Morris Index (p = 0.001). The muscle stretching tests represented improved mobility (p = 0.001). CONCLUSIONS: Present study provides further evidence of the effectiveness of core stabilisation and muscle stretching techniques in cLBP. It would be worthwhile to continue this study involving more patients with long follow-up emphasizing the myofascial release techniques.

PM59 THE EFFECT OF SZIGETVAR THERMAL WATER ON QUALITY OF LIFE OF PATIENTS WITH RHEUMATOID DISEASES
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OBJECTIVES: The thermal water of the City of Szegvár, discovered in 1966, has a temperature of 62 oC when it reaches the surface and contains alkali-bicarbonate with sodium chloride. The main objective is to explore the potential improvement in the quality of life and the effect of the thermal water as compared to warm tap water (placebo). The assumption was that the water with organic material content has a therapeutic effect.

PM510 EFFICACY OF SURGICAL VS. NON-SURGICAL TREATMENT OF CARPAL TUNNEL SYNDROME (CTS): A SYSTEMATIC REVIEW
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OBJECTIVES: To conduct a systematic review to compare the efficacy of surgical versus non-surgical treatment of carpal tunnel syndrome (CTS).

METHODS: We searched Embase, Medline & Cochrane databases from January 2000 to June 2015 and included all randomized controlled trials comparing any surgical versus non-surgical therapies in patients with CTS. Two authors independently assessed the eligibility of the trials and performed all the necessary steps of a systematic review. A qualitative analysis of the results was done. RESULTS: From the 112 studies retrieved, 5 studies reached the stage of data extraction. Three studies compared decompressive surgery with local steroid injection, one study compared surgical versus non-surgical (hand therapy and ultrasound) and the last study compared surgical and non-surgical patients. The outcomes included pain, active range of motion, and quality of life in 50 patients, 116 patients and 176 patients. The study with 50 patients reported that at 20 weeks patients who underwent surgery had greater symptomatic improvement than those who were injected with steroids. The mean improvement in GSS after 20 and 5 years was 75%. Among the 51 patients with GD symptom score scoring <8, the surgery group vs. 8.7 (SD 3.6) in the placebo group (p < 0.001). Similarly, the other two trials comparing surgery with steroid injection reported that surgery has additional benefits in improving CTS. The trial comparing surgery with splinting reported a success rate of 90% with surgery as compared to 75% with splinting. The trial with surgery versus non-surgery revealed a significant 12-month adjusted advantage for surgery in function (CTSAQ function score: Delta -0.40, 95% CI 11.55; p = 0.001) and symptoms (CTSAQ symptom score: 0.34, 0.05-0.63; p = 0.025). CONCLUSIONS: Thermal water in the treatment of CTS has significantly better improvement than non-surgical treatment. Further, the surgical treatment was a better option as compared to local steroid injections and splinting.

PM511 USING ACTIVE TECHNIQUES TO HANDLE CHRONIC LOW BACK PAIN CAUSED BY SEDENTARY WORK
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OBJECTIVES: Chronic low back pain (cLBP) is a key issue for health care and society. The purpose of this study was to describe the effects of the exercise training program by examining the muscular strength, the range of motion, the muscle stretching, the pain and the functional development at sedentary workers with cLBP.

METHODS: The examination was carried out in Zalaegerszeg in 2014. Thirty patients were involved (30-60y) who had cLBP because of sedentary work for many years. The participants received core stability training and traditional active and passive stretching exercises integrated with myofascial release technique. Data collected were strength and stability tests (DAVID 110,130 and modified plank tests), lumbar spine range of motion (Zebris-system), muscle stretching (David-conception), pain and functionality (Visual Analog Scale, Roland-Morris Scale) and general health status (physical examination, discharge report, self-made questionnaire). Descriptive statistics, t-test and chi²-test were used (IBM SPSS 19v). RESULTS: The trunk muscle forces (flexors p = 0.003, extensors p = 0.008) and the modified plank tests (prone and side position p = 0.001, prone position p = 0.040) showed significant changes in trunk muscle force, lumbar spine range of motion and significant improvements (p = 0.001). The level of pain decreased significantly (p = 0.001), similar to the Roland-Morris Index (p = 0.001). The muscle stretching tests represented improved mobility (p = 0.001). CONCLUSIONS: Present study provides further evidence of the effectiveness of core stabilisation and muscle stretching techniques in cLBP. It would be worthwhile to continue this study involving more patients with long follow-up emphasizing the myofascial release techniques.

PM512 EFFECTIVENESS OF ALLOPURINOL IN ACHIEVING AND SUSTAINING TARGET SERUM URATE: AN ANALYSIS OF A NATIONAL INTEGRATED U.S. HEALTHCARE SYSTEM
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OBJECTIVES: To comprehensively assess as to which patient, comorbidity, physician, system, health care access and disease factors are associated with the ability to achieve and maintain target serum urate (sUA) with allopurinol in patients with gout.

METHODS: We used National VA national databases from 2002-2012. Patients were eligible if they had ≥2 outpatient or ≥1 inpatient encounters with an International Classification of Diseases-ninth version (ICD-9) code 274.xx for gout, and met 12-month observability rule. Index allopurinol use was defined as the filling of a new allopurinol prescription with no allopurinol exposure in the previous 121 days. Treatment successes were defined as the achievement of: (1) post-index sUA < 6 mg/dL, and (2) post-index sUA < 6 mg/dL that was sustained. RESULTS: 41,153 unique patients with 47,072 prescriptions at the end dose, higher allopurinol adherence and recommended or fast allopurinol dose escalation. CONCLUSIONS: In this study, we identified several important factors associated with achieving and maintaining sUA < 6 mg/dL. This new knowledge provides several new potential modifiable targets for improving the ability to lower serum urate with allopurinol pharmacotherapy and sustain a therapeutic target in patients with gout.