MUSCULAR-SKELETAL DISORDERS – Clinical Outcome Studies

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

Combiz G1, Rosendahl C1, Søndergaard J1, Skouby Ø1, Steinhardt J1, Szabolc J1, Boncz P2, Schmidt B1

1University of Næs, Zalaegerszeg, Hungary, 2University of Næs, Pécs, Hungary

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 in two groups. In Group I (n=20), patients were in normal laying position, in Group II (n=20), hips were positioned in flexion and knee in extension and in Group III (n=20), hips and knees positioned in flexion in the long leg casting technique, the surgeon and the anticoagulant treatments were the same. Data collection: medical records, haemoglobin and haematocrit. For the clinical parameters, t-tests, ANOVA and Scheffe post hoc tests were used. Statistical significance was established at the p=0.05 level and α=0.20 was used. RESULTS: During the first six postoperative hours 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

Nobre M1, Gomes R2

1Heart Institute (InCor) São Paulo University, São Paulo, Brazil, 2FURB - University of Blumenau, Blumenau, Brazil

OBJECTIVES: Patients with rheumatoid arthritis (RA) have a higher risk of ischemic cardiovascular disease 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 cross-sectional study including 183 adult patients with code M06 (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, if 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 12.1 years. 43 patients (23.4%) had a history of acute myocardial infarction, unstable angina or myocardial revascularization after the diagnosis of rheumatoid arthritis was 7 (3.8%), two men and five women, two of those fatal, one of each sex. When compared to the general population, the prevalence are in Italy 0.6%, Sweden 3.3%, Netherlands 3.8%, UK 4.8%, France 4.1%, Canada 3.5%, US 3.7%, China 3.5%, Russia 5.1%, New Zealand 5.2%. CONCLUSIONS: The result shows 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

Heiman F, Moretti R, Pegoraro V, Cataldo N

IMS Health Information Solutions Research Srl, Milan, Italy

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 years 5 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 without neither Osteoporosis neither Depression diagnosis during the five years period preceding the Index Date. Patients in both the two cohorts have been followed-up until one of the following events occurred first: Osteoporosis diagnosis registered in the database of registration with the GI; 31 December 2013. Osteoporosis incidence rates have been separately calculated in the two cohorts and Osteoporosis cumulative incidence curves have been estimated using Kaplan Meier methods and compared with the general population in Italy. Both univariate and multivariate 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=1.65, CI=1.47,1.85) and multivariate proportional hazard model (HR=1.5, CI=1.3,1.77)

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 ANDOSTEOARTHRITIS

Yu D1, Peat G2, Bedson J1, Edwards J1, Turkiewicz T2, Jordan K1

1Koç University, Istanbul, Turkey, 2School of Nursing, University of Leeds, UK

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 [CIPCA] in England). WCE functions for modelling cumulative effect of time-varying knee pain consultations weighted by perceived intensity were derived 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 models fit, discrimination, calibration and other model characteristics. 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. WCE (Half-Normal) score had better predictive values than WCE (Spline) score (WCE [Spline] score was evaluated and compared on models fit, discrimination, calibration and other model characteristics). CONCLUSIONS: WCE functions can be used to model knee pain symptoms within routine EHR data and may provide novel low-cost predictive tools that may contribute to early diagnosis.

PMS5
CLINICAL EFFECTIVENESS OF BIPHOSPHONATES FOR PREVENTION OF FRACTURE: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

Sanderson J1, Peat G1, Bedson J1, Edwards J1, Turkiewicz T2, Jordan K1

1University of Sheffield, Sheffield, UK

OBJECTIVES: To assess the relative efficacy of biphosphonates (alendronate, risedronate, ibandronate and zoledronate) for the treatment of osteoporosis using network meta-analysis (NMA). METHODS: A systematic review of the literature was conducted using 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 effect was modelled using node-splitting. RESULTS: Twentyseven RCTs were included. Thirty-six 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 (HR 0.49, 95% CI 0.32-0.75). Alendronate had the lowest effect on non-vertebral and wrist fractures was given by risedronate (HR 0.72, 95% CI 0.53-0.89 and HR 0.77, 95% CI 0.44-1.24, respectively). For hip fractures the greatest treatment effect was given by alendronate (HR 0.78, 95% CI 0.64-1.30). CONCLUSIONS: All treatments were associated with beneficial effects on fractures and femoral neck BMD relative to placebo. For vertebral fractures and percentage change in BMD the treatment effects were statistically significant for all treatments. Fairwise comparisons between the treatments indicated that alendronate was statistically significantly more effective than any other active treatment for fracture outcomes. There was some heterogeneity in treatment effects between studies suggesting differential treatment effect according to study characteristics. However, there was no evidence of differential treatment effects with respect to gender and age.

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

Perreault S1, Nuevo P1, Baumgartner S1, Mollick R2

1Université de Montréal, Montreal, QC, Canada, 2Astrazeneca, Madrid, Spain

OBJECTIVES: Risk of end-stage renal disease (ESRD) in both hypertension and gout has been examined in the literature. However, the impact of allopurinol adherence on primary prevention of ESRD has not been assessed. The objective is to evaluate impact of better allopurinol adherence on ESRD onset. METHODS: A cohort of 2752 patients with gout diagnosis was reconstructed using the Quebec RAMQ and MED-ECHO administrative databases. New users of allopurinol, aged 45-85 years, with a diagnosis of hypertension and treated with an antihypertensive drug between 1997-2007 were eligible. A nested case-control design was used to study ESRD occurrence. Every ESRD case was matched for age, sex and duration of follow-up for up to 15 controls. Adherence level was assessed as medication possession ratio. Conditional logistic regression models were used to estimate rate ratios (RR) of ESRD adjusting for covariates. RESULTS: Patients had a mean age of 68 years, 82% were men, approximately 50% had ≥1 cardiovascular disorder, 33% had dyslipidemia, 21% had diabetes, 15% had chronic kidney disease, and 21% were treated with insulin. ESRD incidence was not statistically associated with allopurinol adherence. Clinical characteristics were similar among allopurinol adherent versus non-adherent patients. Major risk factor for ESRD onset was chronic kidney disease (HR=2.3, 95% CI 1.3-1.9; RR=8.00, CI 7.22-8.89). Hypertension severity (≥ 9 vs. < 3 antihypertensive drugs) was a trending risk factor as a crude estimate (RR: 1.94; CI: 0.68-5.51). Of 341 patients (cases, n=22; controls, n=319), high adherence (≥80%) to allopurinol, versus lower adherence (<80%), was associated with a lower rate of ESRD onset (RR: 0.63, 95% CI 0.36-1.11). CONCLUSIONS: This population-based study suggests that better allopurinol adherence may be associated with risk reduction of new-onset ESRD in hypertensive patients. Further research is needed, as this study was limited by the small number of cases and potential residual confounding factors.