

PMS19

TREATMENT MODIFICATIONS AND COSTS OF BIOLOGIC THERAPY IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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OBJECTIVES: Limited information exists on real-world use of biologic agents in ankylosing spondylitis (AS). This study evaluated the treatment patterns and costs of biologic therapy and disease-modifying antirheumatic drugs (DMARDs) in AS patients. **METHODS:** MarketScan claims databases were used to identify biologic treatment-naïve AS patients (≥ 18 years of age with no biologics in the past 6 months) who initiated biologic treatment between 10/1/2009 and 09/30/2010. Frequency of biologic switching, duration, modification of treatment, and medical and pharmacy drug costs for each line of biologic therapy was analyzed during the 3-year follow-up. **RESULTS:** A cohort of 339 AS patients was identified. First-line biologics were: etanercept (n=140), adalimumab (n=137), infliximab (n=41), golimumab (n=18) and certolizumab pegol (n=3). Approximately two-thirds of the patients (64.6%) discontinued their first-line biologic therapy and did not restart any biological therapy, 23.6% of patients stayed on their first-line, 8.8% switched to second-line and 2.9% to third-line therapies. Patients who switched to a second- or third-line biologic treatment remained on their first-line agent for less time (336, 325-days, respectively) than those who did not switch (502-days). Most common treatment modifications in first-line were DMARD add-on (6.5%) and removal (5.6%). Time to first treatment-modification was shorter for those who switched to second- (88 days) and third-line therapy (6-days) vs. those who remained on first-line (160-days). Monthly-per-member medical costs were greatest for non-switchers (\$363) than for patients who received second- (\$249) or third-line (\$113) treatment. Monthly-per-member overall pharmacy drug costs were similar for patients with first- (\$1,908), second- (\$1,955) or third-line and above (\$1,890) therapy. **CONCLUSIONS:** Sixty five percent of AS patients discontinued their first-line agent during the follow-up period. Those who switched biologics had more modifications to their treatment. Patients who switched to second- or third-line biologics had lower medical costs; however, their pharmacy costs were similar to those who continued their first-line.

PMS20

LONG-TERM FAILURE RATES ASSOCIATED WITH KNEE MICROFRACTURE SURGERY

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OBJECTIVES: Information is limited regarding the interim and long-term outcomes associated with knee microfracture surgery. The objective of the study was to describe failure rates 1 year, 3 years, and 5 years after knee microfracture surgery in an administrative claims database. **METHODS:** Beneficiaries with knee microfracture surgery between 10/1/2007 and 9/30/2008 (index surgery) and continuous enrollment 24 months prior to the index surgery were identified in the Truven Health Marketscan® Commercial, Medicare Supplemental, and Medicaid databases. Patients with any knee procedures in the 2 years prior to index surgery were excluded. Patients were followed for a minimum of 3 years after the index surgery and a subgroup of patients were followed for 5 years. Procedure failure was defined as receiving a total knee replacement (TKR) or revision, microfracture or autologous chondrocyte implantation subsequent to index surgery. **RESULTS:** A total of 3,498 patients (2,948 commercial payer, 351 Medicare and 199 Medicaid) met the study inclusion criteria. Failure rates increased with increasing years of follow-up: 9% within 1 year, 18% within 3 years, and 32% within 5 years. Among commercial payer patients, 8% were failures after 1 year, compared to 16% after 3 years and 31% after 5 years. The highest rates of failure were observed among Medicare beneficiaries, in which 18%, 30%, and 41% of patients received knee procedures within 1 year, 3 years, and 5 years, respectively. Failure rates defined by TKR after microfracture surgery were 5% within 1 year, 12% within 3 years, and 22% within 5 years. **CONCLUSIONS:** Although the gold standard, knee microfracture surgeries have high failure rates as defined by repeat procedures within five years. There is a need for procedures that provide durable improvements in health outcomes and reduce the need for repeat interventions.

PMS21

EVALUATION OF PROGNOSTIC FACTORS FOR CONTRALATERAL HIP FRACTURE AMONG ELDERLY WOMEN IN HUNGARY: A 8-YEAR NATIONWIDE STUDY

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OBJECTIVES: Hip fracture is most serious consequence of osteoporosis with significant financial and personal costs. Our aim was to determine the significance of demographic and clinical factors for contralateral hip fracture among elderly women. **METHODS:** In our retrospective observational cohort study women aged 60 years and over treated with primary femoral neck fractures in the year 2000 were selected from the database of the Hungarian National Health Insurance Fund. Contralateral hip fractures were recorded between 01 January 2000 and 31 December 2008. Patients' data including age, place of living, hospital providing treatment for primary hip fracture, type of primary fracture, comorbidities, type of primary surgical intervention and survival time were studied. Prognostic factors of secondary hip fracture were evaluated using multivariate Cox proportional hazard regression and Kaplan-Meier survival analysis. **RESULTS:** 2866 subjects met the criteria. 263 patients (9.17%) suffered from secondary hip fracture during the observation period. The mean time until secondary fracture was 1142.82 days. Expressed as cases per person-years the incidence of subsequent hip fracture was 0.23. Significant correlations were found between higher age (years, HR: 1.03, p<0.001, CI: 1.01-1.05), having hip arthroplasty as type of surgical intervention for primary fracture (osteosynthesis vs. arthroplasty, HR: 1.63, p=0.022, CI: 1.19-2.24) and occurrence of subsequent hip fractures. Comparing patients' survival on different surgical intervention, log rank test showed significantly longer survival (p=0.027) in patients with arthroplasty (mean survival time: 1739.84 days) compared with those having osteosynthesis (mean survival time:

1540.59 days). **CONCLUSIONS:** Higher age and having arthroplasty were associated with increased risk of secondary hip fracture in elderly women. The higher risk of secondary hip fracture in patients with hip arthroplasty could be explained by their longer survival after primary treatment. Further analyses of risk factors are needed to elaborate effective prevention strategies for secondary hip fractures.

PMS22

INCREASED RISK OF OSTEOPENIA AMONG HIV-POSITIVE ADULTS AGES 18-49

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OBJECTIVES: Bone loss is a common problem occurring among human immunodeficiency virus (HIV)-positive patients. Explanations for the bone loss are unknown. We estimated the prevalence of osteopenia among HIV-positive adults ages 18-49 versus matched HIV-negative adults; and ranked predictors for osteopenia in terms of their contribution to a prediction model. **METHODS:** We conducted a cross-sectional study on the 2005-2010 National Health and Nutrition Examination Survey (NHANES). HIV-positive individuals were identified according to HIV antibody test. Bone mineral density (BMD) T-score of femur neck was calculated based on the mean and SD from data for non-Hispanic white females ages 20-29 from the NHANES III. Osteopenia was defined as T-score between -1 and -2.5; osteoporosis was defined as T-score less than -2.5. A HIV-positive adult was matched with 3 HIV-negative adults at the same sex, age category and race. We used multiple logistic regression identified predictors of osteopenia among the matched cohort. **RESULTS:** 52 HIV-positive individuals were identified. In the matched cohort 46 HIV-positive and 138 HIV-negative adults were included. The mean age of the matched cohort was 39.3±9.0 years, and 76.1% were male. No osteoporosis was observed in either case group or control group. The prevalence of osteopenia was 7.3% versus 1.7% among the cases compared to controls. Osteopenia occurred only among males in the cases and females in the controls. Alcohol consumption (p<0.0001) was the strongest predictor of osteopenia, followed by activity intensity (p=0.0003), family history of osteoporosis (p=0.0007), and HIV itself (p=0.0026), after controlling BMI and smoking status. **CONCLUSIONS:** HIV itself is a significant predictor for osteopenia; but due to lack of information on treatment history, it remains unclear if HIV medicine or treatment duration can increase the risk of osteopenia.

PMS23

MULTINOMINAL LOGISTIC REGRESSION ANALYSIS OF RISK FACTORS INFLUENCING THE TIME UNTIL SECONDARY HIP FRACTURES

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OBJECTIVES: The risk of subsequent hip fracture is increased in presence of previous hip fracture. The most of the secondary hip fractures occur within the first 3 years after the initial hip fracture. The aim of our nationwide retrospective observational cohort study was to reveal the significance of demographic and clinical factors on time until subsequent hip fracture. **METHODS:** Patients aged 60 and over treated with primary femoral neck fractures in the year 2000 and suffered from contralateral hip fracture between 01 January 2000 and 31 December 2008 were selected from the database of the Hungarian National Health Insurance Fund. Patients' data concerning their age, gender, place of living, type of primary fracture, comorbid medical diseases, surgical intervention for primary fracture and hospital providing treatment for primary hip fracture were evaluated. Multinomial logistic regression were used to analyse associations between prognostic factors and the time (<12 months, 12-24 months, 24-36 months, 36-48 months, 48-60 months, >60 months) until secondary fracture. **RESULTS:** 312 patients met the criteria. Having osteosynthesis as surgical intervention for primary fracture (osteosynthesis vs. arthroplasty, HR: 6.11, p=0.02, CI: 1.28-29.17) was significantly associated with a greater likelihood of suffering from secondary fracture in the fifth year than in the first year. Patients between 60 and 69 years (60-69 years vs. >90 years, HR: 20.95, p=0.010, CI: 2.09-209.44) were significantly more likely to have contralateral fracture in the sixth year than in the first year. **CONCLUSIONS:** First, we provide evidence of the influence of higher age and osteosynthesis as surgical intervention for primary fracture on the time until subsequent hip fractures in elderly Hungarian population. The results may help establish an effective strategy for the prevention of secondary hip fractures.

PMS24

RELATIONSHIP OF SEDENTARY BEHAVIOR WITH QALYS IN COMMUNITY DWELLING ADULTS WITH OR AT RISK FOR KNEE OSTEOARTHRITIS

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OBJECTIVES: Approximately 10% of the US population is diagnosed with knee osteoarthritis by age 60. Disability due to arthritis increases health care costs and the risk of hospitalization, institutionalization, and mortality. Decreasing sedentary behavior can improve function and may be a modality for improving quality adjusted life years (QALYs). The purpose of this study was to investigate whether varying levels of sedentary behavior impacts the QALY differently. **METHODS:** This study used longitudinal data from the accelerometer study of the Osteoarthritis Initiative (OAI) collected at baseline (OAI 48-month visit) and 2-year follow-up (OAI 72-month visit). We restricted analyses to participants with 4-7 valid days of accelerometer monitoring and individuals with complete health utility data, yielding a sample of 1794 community dwelling adults with or at risk for radiographic knee OA. QALYs (SF6D) were calculated at 48 and 72 months. Participants were classified into quartiles based on average daily sedentary time (most sedentary Q1 ≥ 11.6 , 10.7 < Q2 < 11.6, 9.7 < Q3 < 10.7, least sedentary Q4 < 9.7 hours). The association between sedentary behavior and QALYs was examined using median regression adjusting for age, gender, BMI. **RESULTS:** Average(SD) QALYs over the 2-year follow-up were 1.56(0.23), 1.61(0.20), 1.60(0.23), 1.60(0.23) for Q1-Q4 respec-