View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Elsevier - Publisher Connector

analysis, showed 89.2% of iterations favored denosumab. **CONCLUSIONS:** Denosumab was cost-effective over zoledronate from the private health care setting perspective in Brazil, adding gains in benefits at a lower cost in preventing osteoporotic fractures in postmenopausal women.

PMS42

COST-UTILITY OF TOCILIZUMAB MONOTHERAPY IN METHOTREXATE INTOLERANT/CONTRA-INDICATED, MODERATE/SEVERE RHEUMATOID ARTHRITIS PATIENTS IN PORTUGAL

Monteiro I[1], Cafe A[1], Encarnação R[1], Diamantopoulos A[2], Dejonckheere F[3]
[1]Roche Farmacêutica Química, Lda., Amadora, Portugal, [2]Symmetron Limited, Elstree, Herts, UK, [3]F. Hoffmann-La Roche Ltd., Basel, Switzerland

OBJECTIVES: To explore the cost-utility of adding tocilizumab (TCZ) monotherapy to current monotherapy treatment sequences in moderate/severe adult rheumatoid arthritis (RA) patients with inadequate response to one or more disease-modifying antirheumatic drugs (DMARD-IR) and intolerance/contra-indication to methotrexate (MTX) in Portugal. **METHODS:** A cost-utility analysis was conducted with a societal perspective. The analysis considered two scenarios: a treatment sequence starting with TCZ followed by two tumor necrosis factor inhibitors (anti-TNF), adalimumab (ADA) and etanercept (ETA) and palliative care (PC) - scenario 1 - or ETA, ADA and PC - scenario 2 - compared to the same treatment sequence without TCZ. Patients characteristics (age, starting HAQ-DI score and gender) were based on TCZ randomized clinical trial (RCT) data in monotherapy. ACR response data for the other biologic treatments were sourced from corresponding published RCTs in monotherapy. A mapping model was used to assign QALYs to patients based on HAQ-DI scores and EQ-5D collected in other RCTs (Kremer J, 2008; Smolen JS, 2008). Resource utilization was estimated based on a Portuguese rheumatologists' expert panel. Unit costs were obtained from Portuguese official sources. Costs and QALYs were discounted annually at 5%. Uncertainty around the model key parameters was explored via probabilistic sensitivity analysis (PSA). **RESULTS:** The model estimated that the treatment sequences starting with TCZ result in higher QALYs and additional costs versus comparator sequences. The incremental cost-effectiveness ratios (ICER) in both scenarios is below a threshold of 30.000€ per QALY gained. Sensitivity analysis and PSA showed that results are robust to parameter changes. **CONCLUSIONS:** Results of this analysis suggest that TCZ in monotherapy, added as first line biologic to currently used anti-TNF monotherapy sequences, represents an efficacious and cost-effective alternative to sequences currently used for treating MTX intolerant/contra-indicated RA patients in Portugal.

PMS43

COST-EFFECTIVENESS OF TOCILIZUMAB MONOTHERAPY VERSUS ADALIMUMAB MONOTHERAPY IN THE TREATMENT OF SEVERE ACTIVE RA

Carlson JJ[1], Ogale S[2], Dejonckheere F[3], Sullivan SD[4]
[1]University of Washington, Seattle, WA, USA, [2]Genentech, South San Francisco, CA, USA, [3]F. Hoffmann-La Roche Ltd., Basel, Switzerland, [4]University of Washington, Seattle , WA, USA

OBJECTIVES: To estimate the cost-effectiveness of TCZ vs. ADA used as monotherapy (mono) for RA from the U.S. payer perspective. **METHODS:** We compared TCZ (8mg/kg every 4wks) mono vs. two doses of ADA mono: 1) 40mg weekly, 2) 40mg every 2wks. TCZ and ADA every 2wks efficacy was from the ADACTA trial; ADA weekly efficacy was estimated using data from ADACTA and a 2004 van de Putte study. For the 6-month trial period, we calculated incremental cost per additional ACR responder, and low disease activity score (LDAS) achieved for TCZ vs. ADA. We also used a patient-level simulation model to estimate lifetime incremental cost per quality-adjusted life year (QALY) of initiating treatment with TCZ vs. ADA mono; both followed by etanercept-certolizumab-palliative care. Non-responders discontinue at 6 months; responders experience a constant probability of discontinuation thereafter. Discontinued patients go to the next treatment in the sequence. ACR responses are linked to HAQ, which is mapped to utility to estimate QALYs (Diamantopoulos 2012). Costs include drug treatment, monitoring, and direct medical resource utilization (derived from HAQ; Kobelt 1999). Costs and QALYs were discounted at 3%. Sensitivity analyses were performed. **RESULTS:** TCZ 8mg/kg mono had higher ACR responses and QALYs and lower costs compared with ADA mono 40mg weekly. Compared with ADA 40mg every 2wks, the 6-month incremental cost for TCZ ranged from $2,077/additional LDAS achiever to $4,509/additional ACR70 responder; in the lifetime model the ICER was $49,195/QALY. In one-way sensitivity analyses, results were most sensitive to changes in drug costs and ACR responses. **CONCLUSIONS:** TCZ (8mg/kg every 4wks) mono dominates (more effective and less costly) ADA (40mg weekly) mono and is cost-effective compared to ADA (40mg every 2wks) mono, from a US payer perspective, in patients with severe RA for whom methotrexate treatment is not appropriate.

PMS44

COST-EFFECTIVENESS OF ALENDRONATE THERAPY FORCORTICOSTEROID-INDUCED OSTEOPOROSIS IN POSTMENOPAUSAL WOMEN WITH RHEUMATOID ARTHRITIS IN JAPAN

Moriwaki K[1], Noto S[1], Inoue H[1], Yanagisawa S[2]
[1]Niigata University of Health and Welfare, Niigata, Japan, [2]Faculty of Pharmaceutical Sciences, Himeji Dokkyo University, Himeji, Japan

OBJECTIVES: To estimate the cost-effectiveness of alendronate therapy for corticosteroid-induced osteoporosis in postmenopausal women with rheumatoid arthritis in Japan. **METHODS:** A Markov model with six health states (no fracture, post-vertebral fracture, post-hip fracture, post-vertebral and hip fracture, bedridden, and death) was developed to predict lifetime costs and quality-adjusted life years (QALYs) of five years of alendronate therapy versus no anti-osteoporotic therapy in rheumatoid arthritis patients without fracture history. Fracture risk associated with age and bone mineral density (BMD) was derived from epidemiologic studies in Japan. For the base-case analysis, we ran the model with age of 65 and BMD 70% of the young adult mean (YAM). Probabilistic sensitivity analysis was performed to assess parameter uncertainty. **RESULTS:** Compared with no anti-osteoporotic therapy, alendronate therapy cost an additional US$1,255 per person and conferred an additional 0.026 QALYs, resulting in an incremental cost-effectiveness ratio (ICER) of US$48,260 per QALY gained in 65-year-old patient with BMD 70% of YAM. In 70- and 75-year-old women, the ICER were estimated to be US$32,473 and US$20,255 per QALY gained, respectively. Appling a willingness to pay threshold of $60,000 per QALY, the probability of being cost-effective was estimated to 66.2 %, 92.7%, and 99.9% in 65-, 70-, and 75-year-old women with BMD 70% of YAM, respectively. **CONCLUSIONS:** Anti-osteoporotic therapy for corticosteroid-induced osteoporosis in postmenopausal women with rheumatoid arthritis would be cost-effective in terms of Japan health care system.

PMS45

EXERCISE THERAPY, MANUAL THERAPY, OR BOTH, FOR MANAGEMENT OF OSTEOARTHRITIS OF THE HIP OR KNEE: ECONOMIC EVALUATION ALONGSIDE A RANDOMIZED CLINICAL TRIAL

Abbott JH[1], Pinto D[2], Robertson MC[1], T MOA Trial Team[1]
[1]University of Otago, Dunedin, Otago, New Zealand, [2]Northwestern University, Chicago, MI, USA

OBJECTIVES: There is evidence supporting the effectiveness of both exercise therapy and manual therapy for hip and knee osteoarthritis (OA), but no clinical trials or economic evaluations have been reported of their use alone or in combination compared against usual medical care. **METHODS:** We conducted a cost-utility analysis alongside a randomized controlled trial. Adults meeting the American College of Rheumatology criteria for hip or knee OA were randomly allocated to either: a) exercise therapy; b) manual therapy; c) combined exercise therapy and manual therapy; or d) usual medical care only. Changes in the Western Ontario and McMaster (WOMAC) osteoarthritis index, physical performance measures, quality adjusted life years (QALY), and economic costs (presented in 2009 NZD) were assessed at 12 months, blind to group allocation. Incremental cost-utility ratios (ICER) with 95% CIs and cost-effectiveness acceptability curves were reported, from both health care system and societal perspectives. **RESULTS:** Of 206 participants recruited, 193 (93.2%) were retained at follow-up. Intention-to-treat analysis showed effect sizes for WOMAC score changes at one year compared with the usual care group of 0.53 (Cohen's d; 95% CI .14, .92) for manual therapy alone, 0.32 (-.07, .71) for exercise therapy alone, and 0.31 (-.09, .70) for combined exercise therapy and manual therapy. QALY gain and physical performance test outcomes significantly favoured the exercise therapy group. Exercise therapy resulted in incremental cost-utility ratios regarded as cost-effective at a willingness-to-pay threshold of 2x GDP per-capita, but was not cost saving. Manual therapy was cost saving relative to usual care from the societal perspective. **CONCLUSIONS:** Both exercise physiotherapy and manual physiotherapy, but not combined therapy, provided incremental benefit over usual care alone at one year follow-up. From the perspective of the New Zealand health system, exercise therapy was best value, and from the perspective of society, manual therapy saved costs.

PMS46

ECONOMIC EVALUATION OF ADALIMUMAB FOR THE TREATMENT OF EARLY- AND LATE-STAGE RHEUMATOID ARTHRITIS IN ITALY

Benedict A[1], Kongnakorn T[2], Shaw JW[3], Marcellusi A[4], Vanness DJ[5], Gitto L[4], Giannantoni P[4], Cifaldi M[3], Attinà G[6], Mennini FS[4]
[1]United BioSource Corporation, Budapest, Hungary, [2]United BioSource Corporation, London, UK, [3]Abbott Laboratories, Abbott Park, IL, USA, [4]University of Rome, Rome, Italy, [5]United BioSource Corporation, Bethesda, MD, USA, [6]Abbott Italy, Latina, Italy

OBJECTIVES: The treatment of rheumatoid arthritis (RA) is usually initiated with disease-modifying anti-rheumatic drugs (DMARDs). In patients who do not tolerate or respond to DMARDs, treatment with a biologic agent may be considered. This study aimed to estimate the cost effectiveness of adalimumab+methotrexate (ADA+MTX) relative to standard DMARD therapy for treating early- and late-stage RA in Italy. **METHODS:** Separate discrete event simulations were performed to model the clinical and treatment pathways of early and late RA. Patients' clinical course was modeled as a function of baseline characteristics, treatment efficacy, risks of adverse events, treatment withdrawals, and death. Treatment efficacy was based on American College of Rheumatology (ACR) response, which was translated into Health Assessment Questionnaire (HAQ) scores to facilitate the assignment of costs and utilities. Survival, quality-adjusted life years (QALYs), and direct medical costs were estimated over a lifetime. Inputs of demographics, treatment efficacy, the ACR-HAQ relationship, and utility scores were extracted from several ADA+MTX trials; risks of adverse events, withdrawal rates, prices, and resource use from the literature; and life expectancy from Italian life tables. Assumptions regarding resource use and HAQ progression were consistent with published RA models. **RESULTS:** For early RA, the incremental cost-utility ratio (ICUR) for ADA+MTX over DMARDs-only treatment (after failing two doses of MTX and followed by rescue therapy) was estimated to be €15,770/QALY (3.37 QALYs gained and €53,100 incremental costs). For late-stage RA, the ICUR for ADA+MTX relative to DMARDs only (after failing three doses of MTX and followed by rescue therapy) was estimated to be €20,129/QALY (1.84 QALYs gained, €37,081 incremental costs). Sensitivity analyses indicated that ADA+MTX was cost effective over a range of key parameters. **CONCLUSIONS:** The results of these simulations indicate that treatment of early and late RA with ADA+MTX is cost effective relative to DMARDs-only treatment in an Italian setting.