PMS15 COST-EFFECTIVENESS ANALYSES OF SCREENING AND TREATMENT STRATEGIES FOR POSTMENOPAUSAL OSTEOSPOROSIS IN CHINESE WOMEN


OBJECTIVES: We have analyzed data on presenteeism and absenteeism measured with Work Productivity and Activity Impairment questionnaire from an observational, cross-sectional M2W study of patients with rheumatoid arthritis (RA), Crohn’s disease (CD) and psoriasis (Ps) in Poland. The evaluation of indirect costs includes costs of presenteeism and absenteeism of employed patients, using human capital method. We compared two methods of estimating unit costs of lost productivity recommended in the literature: the reflection of the productivity loss on GDP and GDP per worker per hour at 2013 US$. This study was to determine the cost effectiveness of osteoporosis screening strategies from age 65 were compared to that of no screening from the Chinese health care perspective. The screening strategies were 3) Osteoporosis Self-Assessment tool (OST) followed by dual-energy X-ray absorptiometry (DXA), 2) quantitative ultrasound (US) and 3) DXA. Patients were assumed to receive only osteoporosis or fractures, and were screened every 5 years if osteoporosis was not detected. First order Monte Carlo simulation was conducted to model fracture costs and probabilities. Sensitivity analysis was performed to account for parameter uncertainties. Input parameters, including age-specific osteoporosis prevalence, fracture probabilities and costs were estimated. Probabilities were taken from a published Chinese administrative health care database with an annual discount of 3%. A willingness-to-pay (WTP) threshold of $25,000/quality adjusted life year (QALY) gained was used as the WTP threshold.

RESULTS: Sensitivity analysis results showed that the incremental cost-effectiveness ratio (ICER) for screening with Osteoporosis Self-Assessment tool (OST) followed by dual-energy X-ray absorptiometry (DXA), was $14,466/QALY gained. ICER for screening with quantitative ultrasound (US) was $25,461/QALY gained. ICER for DXA screening was $103,718/QALY gained. Compared to DXA alone, OST followed by DXA and QS screening were dominated. Given a WTP threshold of $25,000/QALY gained, screening with DXA alone had a probability of 56% being cost effective. Screening with OST followed by DXA had a probability of 98% being cost effective.

CONCLUSIONS: Screening alone was more cost-effective than no screening, and was more costly. Compared to no screening, the incremental cost-effectiveness ratio (ICER) for screening with OST followed by DXA was $14,466/QALY gained. ICER for DXA screening was $103,718/QALY gained. Compared to DXA alone, OST followed by DXA and QS screenings were dominated. Given a WTP threshold of $25,000/QALY gained, screening with DXA alone had a probability of 56% being cost effective. Screening with OST followed by DXA had a probability of 98% being cost effective.

PMS16 COST-EFFECTIVENESS OF DENOSUMAB VS. BRAND OR GENERIC ZOLEDRONIC ACID IN PATIENTS WITH BREAST CANCER IN KAZAKHSTAN

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OBJECTIVES: Denosumab is recommended for preventing skeletal-related events (SREs) in adults with bone metastases from breast cancer (BC). Since recently generic zolendronic acid (ZA) became available, the aim of present study was to access the cost-effectiveness of denosumab vs. brand or generic ZA in the prevention of SREs in Kazakhstani patients with BC. METHODS: An excel-based Markov model was constructed with 4-week model cycles to analyse the cost-effectiveness of the treatments from the perspective of Ministry of Health with a 10-year time horizon for BC cohort. Direct costs (in 2014 tenge) included costs of drug, adverse event and SREs (pathologic fracture, surgery to bone, radiation to bone, spinal cord compression) treatment. A discount rate of 3% per year was applied for all costs. Effectiveness was appraised based on the number of SREs. The health states were defined according to SREs occurrence SRE history and death. The model assumed that a maximum of 1 SRE could occur in each cycle. Transition probabilities were derived from the relevant phase III trials. Results were present in the incremental total cost per SRE avoided. One-way sensitivity analyses were performed to examine the robustness of the model. RESULTS: Over 10-year period, denosumab incurred 10.44 tenge lower costs than brand ZA, 56858 tenge higher costs than generic ZA, 1.28 fewer SREs per BC patient. The estimated incremental total direct costs per SRE avoided with the use of denosumab were $-816 tenge. Sensitivity analyses result shows that the model is robust to one-way sensitivity analyses. CONCLUSIONS: With assumption that brand and generic ZAs are equally effective in the prevention of SREs in BC patients, denosumab seems to be cost-effective alternative for brand ZA, and costly alternative for generic ZA from a perspective of Ministry of Health of Republic of Kazakhstan.