Abstracts

THE COST-EFFECTIVENESS OF EARLY SURGERY, ADDING BIOPY, AND WATCHFUL WAITING IN THE MANAGEMENT OF SMALL SOLID RENAL MASSES: EVIDENCE FROM A MARKOV MODEL


University of Utah, Salt lake city, UT, USA, 1University of Pittsburgh, Pittsburgh, PA, USA

OBJECTIVES: To compare the relative cost-effectiveness of three clinical strategies (for managing T1a tumor 4 cm or smaller and limited to the kidney): early surgery upon detection of the tumor, adding percutaneous biopsy prior to surgery, and watchful waiting (WW) (monitor with computerized tomography every 6 months until the growth is greater than 2mm per year). METHODS: A Markov decision tree was used to estimate quality-adjusted survival life years (QALYs) and incremental cost-effectiveness (ICER) for each strategy from a societal perspective, based on literature-derived estimates for the probabilities and costs of different outcomes. Multiple one-way and probabilistic sensitivity analysis were conducted to examine the robustness of the results. RESULTS: In the base-case analysis, but before surgery, improved survival by 0.018 QALYs compared with immediate surgery, at an incremental cost of $55,244/QALY, while the ICER of WW relative to surgery was $11,712/QALY. In the base-case, percutaneous biopsy is more expensive and less effective than WW. The treatment decision was most sensitive to variation of the degree of tumor growth that triggers surgery, utility of living with a mass during WW, and the probability of diagnostic biopsy for benign tumors. Choice of WW versus surgery critically depends on patients’ preferences for tumor removal and the risk of recurrence post surgery. In probabilistic sensitivity analysis, surgery was the most favorable strategy when the willingness to pay (WTP) is less than $9,000/QALY. WW is favored as WTP increases beyond $10,000/QALY, and biopsy was favored over surgery when WTP > $60,000. CONCLUSIONS: Although WW results in the highest life-time utility, the favorability of WW depends on patients’ preferences for living with a possibly malignant mass, natural history of watched masses during surveillance, which are poorly understood. Biopsy would be favored if its costs decrease and diagnostic certainty increases in the future.

PUK13

CHALLENGES IN ASSESSING COST-EFFECTIVENESS OF THERAPIES FOR DIALYSIS PATIENTS: A CASE STUDY OF SEVELAMER FOR THE TREATMENT OF HYPERPHOSPHATEMIA

Girone D., Marzorati D., Aria P., Dunn E., Bernard L.

Cornerstone Research Group Inc., Burlington, ON, Canada, 1Humber River Regional Hospital, Weston, ON, Canada, 2Genzyme Corporation, Cambridge, MA, USA

OBJECTIVES: Therapies that extend the lives of dialysis patients can not demonstrate increased survival if dialysis costs are included. This study assesses the cost-effectiveness of sevelamer versus calcium-based binders (CBBs) as treatment for hyperphosphatemia in dialysis patients and, within this context, the suitability of the inclusion of dialysis costs. METHODS: A Markov model estimated life years, incremental cost of life per year gained (LYG) and incremental quality-adjusted life year gained (QALY). Treatment-specific survival was derived from the Dialysis Clinical Outcomes Revisited (DCOR) study and extrapolated using a Weibull regression model. The base case analysis used resource use and survival data for DCOR patients 265 years combined with Canadian unit costs and utility weights from published literature. Dialysis costs were excluded from the base case analysis, as dialysis use is unrelated to phosphate binder choice. Analyses were conducted for a 10-year time horizon using the Alberta Health Care System perspective, with costs and outcomes discounted at 5% per year. RESULTS: Compared with CBBs, sevelamer resulted in a gain of 0.12 LYS and 0.62 QALYs/patient (discounted) producing ratios of $20,847/YL and $34,175/QALY. Over a lifetime horizon, the cost/LYG and cost/QALY were $23,804 and $39,222, respectively. Inclusion of dialysis costs resulted in ratios above $90,000/LYG and $150,000/QALY. CONCLUSIONS: The study highlights the challenges associated with assessing funding of therapies that extend life in dialysis patients and discusses the applicability of dialysis costs in such situations. It found that sevelamer offers good value for money compared to CBBs in the treatment of hyperphosphatemia in patients 65 years old receiving dialysis.

PUK14

ECONOMIC EVALUATION OF THE USE OF OXYBUTYNIN, TOLTERODINE, AND SOLifenacin in PATIENTS WITH HYPERACTIVE BLADDER


University of Southern California, Los Angeles, CA, USA

OBJECTIVES: The Combination of Avodart® and Tamsulosin (CombAT) study shows that combination therapy provides a significantly greater degree of benefit than tamsulosin or dutasteride monotherapy in the treatment of moderate to severe benign prostatic hyperplasia (BPH). The objective of this study was to assess the cost-effectiveness of combination therapy with tamsulosin and dutasteride relative to either of the monotherapies using recent information from the CombAT study. METHODS: A decision analytic model was constructed using a Markov model and a 1-year cycle time. The model estimated clinical and cost consequences of dutasteride and combination therapy. Analyses were conducted for a 20-year time frame from the societal perspective. All costs are presented in 2009 US dollars, and costs and outcomes were discounted at a rate of 3% per year. Outcomes were expressed in terms of the incremental cost-effectiveness ratio (ICER), defined as the ratio of additional costs to additional QALYs. Sensitivity analyses were conducted on model probabilities, cost estimates, utility values and the discount rate. RESULTS: At both moderate and severe symptom levels, tamsulosin was dominated by dutasteride, that is, more costly and less effective than dutasteride. Compared to dutasteride, combination therapy was more expensive but more effective with the ICERs of $197,625 for moderate symptoms and $241,032 for severe symptoms. However, considering a societal cost-effectiveness threshold of $150,000 per QALY, combination therapy was not cost-effective compared to dutasteride. In most sensitivity analyses, these results were not sensitive to changes in model parameters. CONCLUSIONS: This study showed that tamsulosin was more costly and less effective than dutasteride, and the ICERs for combination therapy compared to dutasteride were higher than the cost-effectiveness threshold. Therefore, combination therapy is not cost-effective relative to dutasteride for moderate-to-severe BPH patients.

PUK12

ECONOMIC EVALUATION OF THE USE OF OXYBUTYNIN, TOLTERODINE, AND SOLifenacin in PATIENTS WITH HYPERACTIVE BLADDER


Universidad de Guadalajara, Mexico, Di, Mexico, Hospital de Mexico Federico Gómez, Mexico, DF, Mexico, 1National Institute of Public Health, Cuernavaca, Morelos, Mexico, 2Guia Mark, Mexico, DF, Mexico, 3Guia Mark SA DE CV, Mexico, DF, Mexico

OBJECTIVES: Hyperactive Bladder (HB) is a common, debilitating condition with a considerable negative impact on quality of life. The cost-effectiveness (CE) of three medications was evaluated for the treatment of patients with Hyperactive Bladder from the Mexican Institute of Social Security (IMSS) perspective. METHODS: CE analysis from the perspective of the service provider (IMSS). Since it is a chronic disease with different stages, a Markov model with monthly cycles in a 12-month temporal horizon was developed. Only direct medical costs were used in the analysis. Direct medical costs were estimated on a sample of patient files in two IMSS medical units. Criteria for inclusion was patients with more than 6 months of treatment. The effectiveness measurement was taken from literature and was defined as the percentage of patients that did not present symptoms of incontinence. Univariate and probabilistic sensitivity analyses were performed. RESULTS: The oxybutynin treatment reflected the lowest expected cost per patient treated for hyperactive bladder, US$451 (1 USD = 13.5MXN), followed by the solifenacin and tolterodine treatments, with a cost of US$680 and US$1,335, respectively. As for the effectiveness measurement, the percentage of patients that did not present incontinence within the temporal horizon of analysis was: with tolterodine 2.76%, with oxybutynin 7.14% and with solifenacin 7.46%. Therefore, cost effectiveness ratios interpreted as the cost per percentage point of patients that present incontinence were: oxybutynin US$757, solifenacin US$44, and tolterodine US$441. The incremental cost effectiveness analysis indicates that tolterodine is a dominated alternative and that oxybutynin and solifenacin are positioned within the efficiency line. Nonetheless, when conducting the probabilistic analysis, it was seen that the US$441 available for a solifenacin treatment would be more cost effective for the institution. CONCLUSIONS: From an institutional perspective, solifenacin is a cost-effective alternative for treating patients with HB in the Mexican context.

PUK11

THE COST-EFFECTIVENESS OF EARLY SURGERY, ADDING BIOPY, AND WATCHFUL WAITING IN THE MANAGEMENT OF SMALL SOLID RENAL MASSES: EVIDENCE FROM A MARKOV MODEL

J. Hay J.

University of California, Los Angeles, CA, USA

OBJECTIVES: Multivariable analysis demonstrated predilection paricalcitol use was associated with statistically the clearest reductions in all-cause outpatient services (0.953, 95% CI: 0.93–0.973) and CKD-related hospitalizations (0.780, 95% CI: 0.635 – 0.958); CKD-related outpatient visits (0.962, 95% CI: 0.938–0.987); and CKD-related medications (0.922, 95% CI: 0.85–0.989) for the first year of dialysis compared to no VDR activator treatment. CONCLUSIONS: Paricalcitol treatment for SHPT prior to dialysis is associated with fewer CKD-related medications; and all-cause and CKD-related outpatient services and hospitalizations in the first year of dialysis compared to no VDR activator treatment. Payers should consider these findings when make coverage decisions regarding the use of paricalcitol. Further studies are needed to confirm these results.

PUK1