PUK6

FESOTERODINE FOR THE TREATMENT OF OVERACTIVE BLADDER—A COST-EFFECTIVENESS CASE STUDY OF SWEDEN

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OBJECTIVE: Fesoterodine is an effective, safe, and well-tolerated treatment indicated for patients with overactive bladder (OAB). The aim of this study was to assess, from a societal perspective, the cost-effectiveness of one-year treatment with fesoterodine 4 mg and 8 mg compared with tolterodine ER 4mg. **METHODS:** We developed a health economic model simulating the treatment outcomes of OAB patients initiating therapy. Discontinuation, efficacy, and health-related quality of life (HRQL) were based on the results of a 12-week multinational randomised clinical trial extrapolated to one year. Probabilities and costs of OAB-related co-morbidities, medical and incontinence pad costs, and cost of lost time from work were also included in the model and taken from published literature. Prices of fesoterodine 4 and 8 mg and tolterodine are taken from the public data-base; $1.98, $2.35 and $2.10, respectively ($1 = 6.42kr). Treatment response is defined as resolution of incontinence measured by self-reported diary entries. Responders and non-responders were assigned a gain in quality-adjusted life years (QALYs) based on the results of the King's Health Questionnaire, a HRQL instrument validated in patients with OAB collected during the trial. Treatment discontinuers are assigned no QALY-gain. Sensitivity analysis of key parameters was also performed. All costs are expressed in 2007 Swedish Kr. **RESULTS:** In the base case, fesoterodine 4 mg and 8 mg are more effective than tolterodine with QALY gains of 0.01008 and 0.01116 versus 0.00947, and have lower overall costs ($6.918 and $6.549 versus $7.255). These results indicate that treatment with fesoterodine 4 mg or 8 mg is a cost-saving treatment strategy compared with tolterodine. Results were robust to changes in treatment responder rates and OAB-related co-morbidity rates. As most models, results were more sensitive to treatment-associated utility values. **CONCLUSION:** Our results suggest that at the current prices, fesoterodine 4 mg and fesoterodine 8 mg provide additional health benefits at lower costs compared to tolterodine.

PUK7

COST-EFFECTIVENESS OF IMMUNOSUPPRESSIVE REGIMENS IN RENAL TRANSPLANT RECIPIENTS IN GERMANY

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OBJECTIVE: To investigate the cost-effectiveness of immunosuppressive regimens in renal transplant recipients in Germany. **METHODS:** A micro-simulation model was built comparing immunosuppressive regimens based on cyclosporine, everolimus, sirolimus, and tacrolimus in renal transplants. Within the model, mean costs per patient as well as incremental costs per life year gained and per year with functioning graft were assessed from the perspective of the German statutory health insurance (SHI). The evaluation was performed for a two and a ten year time horizon. Effectiveness data up to two years was derived from a meta-analysis. Starting from year three, the model was populated with extrapolated clinical data, mainly originating from a patient register, which was equally implemented for all regimens considered. Cost data was estimated based on relevant tariff works and literature. Base year for costing was 2007. To test the robustness of the model, probabilistic sensitivity analyses were conducted. **RESULTS:** Over the 2-year period, mean total costs per patient amount to €25,248, €29,444, €33,482, and €49,985 for sirolimus, cyclosporine, everolimus, and tacrolimus, respectively. Focusing on the costs per life year gained, sirolimus dominates everolimus. The incremental cost-effectiveness ratio of cyclosporine and tacrolimus compared to sirolimus is €209,800 and €1,902,846, respectively. Regarding the costs per year with functioning graft gained, sirolimus dominates all other regimens considered by showing better effects at lower costs. Over the 10-year time frame, mean total costs per patient were €97,678, €108,647, €120,694, and €183,936 for sirolimus, cyclosporine, everolimus, and tacrolimus, respectively. Sirolimus also shows the best results in survival and time with functioning graft, thus dominating the three alternatives. The model is robust to variations of all parameters. **CONCLUSION:** Over both the 2-year and the 10-year time horizon, sirolimus-based immunosuppression represents a cost-effective option in renal transplant recipients in Germany.

PUK8

A REVIEW: DIFFERING COSTS AND EFFECTS IN ECONOMIC EVALUATIONS OF TOLTERODINE FOR THE TREATMENT OF OVERACTIVE BLADDER

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OBJECTIVE: To review the methodologies of published articles describing full economic evaluations of tolterodine, an antimuscarinic agent used to treat overactive bladder (OAB). **METHODS:** A search of MEDLINE and EMBASE using the search terms "tolterodine" and "cost" or "economic" was conducted (1990–December 2007). English-language citations with abstracts were reviewed. Publications reporting an original formal economic evaluation of tolterodine compared with ≥1 alternative were selected for inclusion. **RESULTS:** Of the 172 citations identified from the search, only 12 met the inclusion criteria. All studies adopted a payor and/or patient perspective. Two were cost analyses based on retrospective databases. Ten used modeling, including 6 cost-effectiveness, 2 cost utility, and 2 cost minimization. Five of the 8 cost-effectiveness/utility studies modeled treatment outcomes using patient-level clinical trial data, whereas the remaining 3 used published clinical trial data and/or expert opinion. 4 of the modeling studies employed Markov methods, 5 used a decision-analytic method, and 1 was a probabilistic disease model based on the expected distribution of patient symptoms. All studies compared different formulations of tolterodine and oxybutynin, sometimes alongside other comparators. Only three of the modeling studies included the possibility of drug switching or titration. With respect to health care resource utilization, all modeling studies included antimuscarinic drug costs, and most included costs of physician visits and incontinence pads. Costs of laundry, surgical procedures, staff and direct overhead, behavioral therapy, laboratory procedures or diagnostic tests, OAB-related comorbidities, and absenteeism were not consistently considered. Primary effect measures varied; incontinence was the most commonly used. **CONCLUSIONS:** Important differences in design, modeling methodology, assumptions, and selection of cost and effects can be found across published economic analyses of tolterodine. Future analyses of new antimuscarinics should comprehensively assess direct medical and indirect productivity costs, including OAB-related comorbidities and the benefits of therapy in terms of quality-adjusted life-years gained.