Abstracts

THE COST-EFFECTIVENESS OF ISOTRETINOIN IN PATIENTS WITH MODERATE-TO-SEVERE ACNE VULGARIS

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Objective: To assess from a societal perspective whether isotretinoin (13-cis-retinoic acid) or oral antibiotics in combination with topical preparations is the most cost-effective first-line treatment of moderate-to-severe acne vulgaris.

Methods: A decision-tree model was used to simulate therapy costs and effectiveness. All estimates of cost and effectiveness were obtained from the literature or expert opinion. The cost-effectiveness ratio was reported as incremental cost per quality-adjusted life-year (QALY) gained. The time horizon was 2 years. Costs and QALYs were discounted by a mortality rate of 0.0023%, which translates to an interest rate of 5.6%. A one-way sensitivity analysis was conducted to determine the robustness of the model’s results. The model was developed using Microsoft Excel.

Results: Isotretinoin increases discounted costs by $1,486 and discounted QALYs by 1.14 years when compared to traditional therapy of oral antibiotics and topical preparations. This resulted in an incremental cost-effectiveness ratio (ICER) of $20,930 per QALY gained for the base-case analysis. The results of the model were insensitive to most model parameters except for the probabilities associated with achieving adequate response or relapse while on therapy. The biggest change in the ICER (204% increase) was caused by a 17% increase in the probability of maintaining adequate response (no relapse) with conventional therapy. Although the ICER was sensitive to these probability values, the highest ICER value of $63,602/QALY found from the sensitivity analysis was still below the threshold for cost-effectiveness.

Conclusions: Isotretinoin was more costly and also more effective than conventional therapy. These results did not change when model parameters were varied in the sensitivity analysis. Assuming a $120,000/QALY threshold for cost-effectiveness, isotretinoin was cost-effective in the first-line treatment of moderate-to-severe inflammatory acne.

PSS5

COMPARING FIXED-COMBINATION THERAPIES FOR TREATING PATIENTS WITH OPEN-ANGLE GLAUCOMA IN A MANAGED CARE ENVIRONMENT

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Objective: Glaucoma, a chronic disorder that requires lifelong treatment, creates a financial burden on patient and health care payers. This study compared fixed-combination therapies in patients with open-angle glaucoma, namely, Latanoprost with Timolol (LT), Dorzolamide with Timolol (DT), and Brimonidine with Timolol (BT).

Methods: A cost-effectiveness analysis was conducted using published literature and primary data collected from pharmacy stores. The study was conducted from a managed care perspective with drug utilization for a period of 12 months. A decision analytic model was developed and included incremental cost-effectiveness ratios (ICERs) were calculated. Therapy cost was calculated by considering medication cost (by taking an average reimbursement amount provided by Medicare part D and private insurances), physician visit cost, cost associated with adverse drug events, and cost due to lack of patient persistency (based on expected annual drug usage). Effective measure considered was percent reduction in intraocular pressure (IOP) from baseline. A one-way sensitivity analysis was performed by varying cost by 25% to take into consideration the potential wastage, overutilization, underutilization, and various differences in IOP reduction in patients.

Results: Mean average percent IOP reduction for LT, DT and BT was 6.7%, 4.3% and 4.6%, respectively. The total cost of therapy for LT, DT and BT was estimated to be $71, 935, and $1099, respectively. ICER analyses indicated a gain of $111.5 for change from DT to LT, while a change from BT to LT indicated a gain of $228. The results remained robust after sensitivity analysis.

Conclusions: In our study, LT was found to be more cost-effective compared to DT and BT. Managed care payers may wish to prioritize fixed-combination therapies used for glaucoma considering medication related adverse events and persistency. Further, research taking into account various other costs should be conducted to provide better evidence.

PSS6

THE COST-EFFECTIVENESS OF USTEKINUMAB IN TREATMENT OF MODERATE-TO-SEVERE PLAQUE PSORIASIS IN TURKEY

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Objective: Psoriasis is a chronic and incurable systemic inflammatory disease with devastating impact on overall health of patients. Ustekinumab, a fully human monoclonal antibody to interleukin-12 and interleukin-23, is the first biologic approved for the treatment of moderate-to-severe plaque psoriasis in the United States.

Methods: A cost-effectiveness analysis was conducted by extracting data from ustekinumab clinical trials. Comparators used in the model were ustekinumab, etanercept, adalimumab, and efalizumab. Comparison (MTC) meta-analysis was used to estimate response rates. Comparators used in the model were ustekinumab, etanercept, adalimumab, and efalizumab.

Results: Ustekinumab efficacy has been analyzed based on patient’s weight for patients with a....