A cost-utility analysis of once daily solifenacin compared to tolterodine in the treatment of overactive bladder syndrome

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
The aim was to evaluate the cost-utility of a new antimuscarinic agent (solifenacin) in adults with overactive bladder syndrome (OAB). The authors concluded that flexible solifenacin dosing was likely to be cost-effective versus tolterodine in patients with OAB. However, further studies were needed to confirm these results. The quality of the study was satisfactory. Despite some limitations concerning utilities data, the authors presented a reasonably transparent analysis and it is likely that the results reflected the available evidence.

Type of economic evaluation
Cost-utility analysis

Study objective
The aim was to evaluate the cost-utility of a new antimuscarinic agent (solifenacin) in adults with overactive bladder syndrome (OAB).

Interventions
Solifenacin (5mg or 10mg tablets) was compared with tolterodine (immediate release 2mg twice daily or extended release 4mg daily).

Location/setting
UK/primary care.

Methods
Analytical approach:
A Markov model with a one-year time horizon was developed to compare the cost-utility of both strategies. The authors stated that the perspective was that of the UK National Health Service.

Effectiveness data:
The evidence of effectiveness was derived mainly from a single, multi-centre, randomised, controlled trial (STAR trial) with 12 weeks of follow-up, with 595 patients in the solifenacin group and 591 in the tolterodine group.

Monetary benefit and utility valuations:
The utilities for health states were derived from a Swedish willingness to pay survey which calculated values via linear regression analysis of the correlation between urinary symptoms and EQ-5D questionnaire scores.

Measure of benefit:
The measure of benefit was quality-adjusted life-years (QALYs).

Cost data:
The cost categories included those of drugs, primary care visits and pad usage, as judged by the authors to be the most relevant. All costs were reported in 2004 to 2005 price year UK pounds sterling (£). The drug use was derived from UK prescription data, primary care visits were assumed to be equal for both fully compliant and drop-out patients in the two drug groups, and pad use data came from the STAR trial.

Analysis of uncertainty:
One-way sensitivity analyses were conducted in order to assess the impact of four parameters: solifenacin discontinuation rates, percentage of patients receiving solifenacin 10mg tablets, percentage of patients with mild symptoms, and utility scores. Additionally, exponential discontinuation rates were evaluated in a scenario analysis, while linear rates were assumed in the base-case.

Results
Solifenacin was a dominant strategy (less costly and more effective). The total costs per patient were £509 for solifenacin and £526 for tolterodine, while QALYs were 0.709 for solifenacin and 0.705 for tolterodine.

These results proved to be robust to the sensitivity analyses conducted, with solifenacin generally being dominant.

Authors' conclusions
The authors concluded that flexible solifenacin dosing was likely to be cost-effective compared with tolterodine in patients with OAB. However, further studies were needed to confirm these results.

CRD commentary
Interventions:
The interventions were clearly reported, including dosage, and their selection was justified. The study was thorough in its coverage of the interventions in the setting.

Effectiveness/benefits:
The analysis was based on a large double-blind randomised controlled trial. The few details provided suggest that the internal validity of the study is likely to be reasonably good. QALYs were appropriately used as the measure of benefit and were derived from the literature. However, neither the methods used to identify primary studies nor the inclusion criteria were reported. Therefore, it is difficult to ascertain if the best available evidence was used to derive health state utilities.

Costs:
The costs appeared to reflect the perspective stated by the authors. The resource use data and the costs were well reported and the cost data appeared to be appropriate for the study population and setting. Unit costs were presented, which will help when replicating the analysis in other settings.

Analysis and results:
The model structure was presented graphically along with all relevant details and modelling assumptions. The authors conducted an appropriate incremental analysis. However, a synthesis was not undertaken by the authors because the intervention was the dominant strategy, that is, less costly and more effective. Sensitivity analyses were conducted on modelling assumptions and parameters, enhancing the generalisability of the study findings. The authors provided a thorough discussion on the limitations and weaknesses of their study.

Concluding remarks:
The quality of the study was satisfactory. Despite some limitations concerning utilities data, the authors presented a reasonably transparent analysis and it is likely that the results reflected the available evidence.

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