The cost-effectiveness of oral triptan therapy in Sweden

Ramsberg J, Henriksson M

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
This study compared the cost-effectiveness of oral triptans for the treatment of migraine attack. The authors concluded that, despite the uncertainty surrounding the results, rizatriptan 10 mg and eletriptan 40 mg appear to be the two modules with the higher probability of being cost-effective in Sweden. On the whole, the methodology of the study seemed appropriate and was transparent. The authors' conclusions appear appropriate.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The study compared the cost-effectiveness of oral triptans for the treatment of migraine attack. The presumed patients were 40 years of age, employed and experienced 15 migraine attacks annually.

Interventions
The medications compared were zolmitriptan (5 and 2.5 mg), eletriptan (40 mg), sumatriptan (50 and 100 mg), rizatriptan (10 mg) and almotriptan (12.5 mg).

Location/setting
Sweden/primary care.

Methods
Analytical approach:
A decision probabilistic model (decision tree) with a time horizon of 1 year was constructed to compare the cost-effectiveness of the treatment module. The authors reported the perspective of the study to have been societal.

Effectiveness data:
The effectiveness data were mainly derived from published systematic reviews and a meta-analysis, which was obtained from a review of the literature. The criteria applied to select the estimates were clear, and the sources searched and process used to identify the data were reported. The main clinical parameters were pain free at 2 hours (PF2), PF2 with no recurrence and sustained pain-free with no adverse events (SNAE). Data on the treatment effect were reported as both an absolute value and a placebo-adjusted value.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
The measure of benefit was SNAE.

Cost data:
The costs were reported in euros (EUR). These comprised the cost of medication and productivity losses due to absenteeism, and reduced productivity (presenteeism). Resource use and cost data were derived from published sources. The price year was not reported.

Analysis of uncertainty:
Probabilistic analysis was conducted using second-order Monte Carlo simulations. All distributions assigned to model...
parameters were reported in full. Sensitivity analyses were also conducted using different outcomes (e.g. PF2 and PF2 with no adverse events). The results were presented using cost-effectiveness acceptability curves.

Results
All medication modules other than rizatriptan 10 mg and eletriptan 40 mg were dominated (i.e. demonstrated higher costs and lower effectiveness). The incremental cost and effects of rizatriptan 10 mg compared with eletriptan 40 mg were EUR 0.02 and 0.0020 SNAE, respectively, resulting in an incremental cost-effectiveness ratio of EUR 100 per SNAE. These results were robust to the sensitivity analysis. The sensitivity analyses also demonstrated that the results were quite sensitive to whether the outcomes were placebo adjusted or not. Without placebo adjustment, almotriptan 12.5 mg became the dominant strategy (less costly and more effective) when SNAE and PF2 with no adverse events were used as outcomes. When PF2 was used as the outcome, rizatriptan 10 mg resulted in an incremental cost-effectiveness ratio of EUR 4 versus almotriptan 12.5 mg.

Authors’ conclusions
The authors concluded that, despite the uncertainty surrounding the cost-effectiveness of the medications, rizatriptan 10 mg and eletriptan 40 mg demonstrated the highest probability of being cost-effective in Sweden.

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

Effectiveness/benefits:
The effectiveness data were obtained from published systematic reviews and meta-analyses, which potentially have the greatest level of internal validity. In addition, the search methods, inclusion criteria and details of the studies included were reported clearly.

Costs:
The costs included would appear to reflect the authors’ stated perspective. The resource use data and costs were well reported, and the cost data appear appropriate for the study population and setting. However, the price year was not reported, so it would not be possible to revalue the results in future years.

Analysis and results:
The model structure was presented graphically along with all relevant details and modelling assumptions. The authors conducted an incremental analysis and the results were adequately presented. Sensitivity analyses were conducted on modelling assumptions and parameters, thereby enhancing the generalisability of the study findings. The authors provided a thorough discussion of the limitations and weaknesses of the study.

Concluding remarks:
The methodology of the study appears appropriate and, on the whole, was reported clearly. The authors’ conclusions seem appropriate.

Funding
None stated.

Bibliographic details

Indexing Status
Subject indexing assigned by NLM

MeSH
Administration, Oral; Computer Simulation; Cost of Illness; Cost-Benefit Analysis /methods; Health Care Costs