
Choice of angiotensin receptor blocker in moderate hypertension: a UK-based costbenefit comparison of olmesartan- and candesartan-based regimens

Belsey JD

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 of the study was to compare mean costs per patient of target-driven hypertension treatment using olmesartan with the same approach using candesartan in patients with previously untreated moderate hypertension in the UK. The authors concluded that olmesartan may be more cost-effective than candesartan for treatment of moderate hypertension. The authors' conclusions should be considered with a degree of caution.

Type of economic evaluation

Cost-effectiveness analysis

Study objective

To compare target-driven hypertension treatment that used olmesartan with target-driven hypertension treatment that used candesartan in patients with previously untreated moderate hypertension in UK.

Interventions

Two treatment pathways for patients with previously untreated moderate hypertension (blood pressure 160-170/100-109mmHg). One used olmesartan (step one 10mg, step two 20mg, step three 40mg) and the other compared with candesartan (step one 8mg, step two 16mg, step three 32mg).

Location/setting

UK/Primary care

Methods

Analytical approach:

The authors used a decision tree model followed by a maintenance cycle to synthesise data from the published literature. The time horizon was one year. The authors stated the study perspective was that of the UK NHS.

Effectiveness data:

The evidence came from indirect estimates based the published literature augmented by authors' assumptions where evidence was missing. The main clinical estimate was reduction of blood pressure to achieve targets for hypertensive patients defined in the UK Quality and Outcomes Framework.

Monetary benefit and utility valuations:

Not relevant.

Measure of benefit:

The primary measure of benefit of the economic evaluation was achievement of blood pressure targets.

Cost data:

The cost categories included the cost of drug treatments only. Unit costs were taken from the 2011 Drug Tariff and British National Formulary.

Analysis of uncertainty:

The authors conducted threshold analysis to assess the point at which uniform changes to cost of effectiveness parameters would have resulted in equality of outcomes.

Results

The results suggested that 94.3% of patients on the olmesartan-based treatment achieved a systolic treatment target of 150mmHg and 99.8% achieved a diastolic target of 90mmHg.

In comparison 89.0% of patients on the candesartan based treatment achieved a systolic treatment target of 150mmHg and 92.2% achieved a diastolic target of 90mmHg.

The mean cost per patient to target (systolic target of 150mmHg) was £171.36 for olmesartan and £189.91 for candesartan.

Authors' conclusions

The authors concluded that olmesartan may be more cost-effective than candesartan for the treatment of moderate hypertension.

CRD commentary

Interventions:

The level of reporting of the interventions and the treatment pathway was good. The two alternatives included in the analysis appeared relevant to the study setting. The authors justified their choice of comparators on the basis of market share (candesartan) and expected efficacy (olmesartan). Five other available comparators were excluded and readers should consider whether this was appropriate or might have affected the validity of the analysis.

Effectiveness/benefits:

Despite its reliance on effectiveness data the analysis was presented with a cost focus. Hence, the level of reporting around the effectiveness data was poor. The authors did not describe the process of identifying and selecting studies from the published literature so it was unclear whether the best available evidence was incorporated into the model. The estimates used were presented in a table. Specific estimates were not linked to references. The authors did not report full details of the methods used to make indirect comparisons.

Costs:

The costs included were relevant to the stated perspective. Additional costs (such as those related to the consequences of high blood pressure) could have been included and these costs would also fall on the NHS. The sources of cost data were well described. The short-time horizon of the model made it appropriate for the authors not to discount future costs. Readers should consider whether a one year time horizon was sufficient to fully capture relevant differences.

Analysis and results:

The model structure was presented in full detail. An incremental analysis was appropriately conducted to assess the relative cost-effectiveness of two treatment alternatives. The results were reported in adequate detail. The authors did not appear to fully address the impact of uncertainty; the level of reporting of the threshold analysis was adequate but this type of analysis alone may have been insufficient. The authors highlighted some of the limitations of their study.

Concluding remarks:

The authors' conclusions should be considered with a degree of caution.

Bibliographic details

Belsey JD. Choice of angiotensin receptor blocker in moderate hypertension: a UK-based costbenefit comparison of olmesartan- and candesartan-based regimens. *Journal of Medical Economics* 2011; 14(5): 553-561

PubMedID

21707445

DOI

10.3111/13696998.2011.595463

Original Paper URL

<http://informahealthcare.com/doi/abs/10.3111/13696998.2011.595463>

Indexing Status

Subject indexing assigned by NLM

MeSH

Angiotensin II Type 1 Receptor Blockers /administration & dosage /economics /therapeutic use; Angiotensin Receptor Antagonists /administration & dosage /economics /therapeutic use; Benzimidazoles /administration & dosage /economics /therapeutic use; Cohort Studies; Cost-Benefit Analysis; Decision Making; Great Britain; Humans; Hypertension /drug therapy; Imidazoles /administration & dosage /economics /therapeutic use; Outcome Assessment (Health Care); Tetrazoles /administration & dosage /economics /therapeutic use

AccessionNumber

22011001710

Date bibliographic record published

05/07/2012

Date abstract record published

25/08/2012