Clinical reviews of fluvastatin: short-term and long-term data

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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.

Health technology
Fluvastatin dosages of 20 to 40 mg/day for patients with hypercholesterolemia.

Type of intervention
Primary prevention.

Economic study type
Cost-effectiveness analysis.

Study population
Patients with polygenic or familial hypercholesterolemia.

Setting
Primary care. The economic study was conducted in the USA.

Dates to which data relate
The studies used in the effectiveness analysis related to 1991 to 1994. Dates for resources were not given. The prices used for calculating the costs related to 1994.

Source of effectiveness data
Synthesis of previously completed studies.

Outcomes assessed in the review
The outcomes were the reduction in total cholesterol, low-density lipoprotein cholesterol (LDL-C), high density lipoprotein cholesterol (HDL-C), triglyceride (TG), and Apo B levels.

Study designs and other criteria for inclusion in the review
Randomised controlled trials (RCTs).

Sources searched to identify primary studies
Not stated.

Criteria used to ensure the validity of primary studies
Double blind trials were included in the analysis.
Methods used to judge relevance and validity, and for extracting data
Not stated.

Number of primary studies included
Seven RCTs.

Methods of combining primary studies
Narrative method.

Investigation of differences between primary studies
Not stated

Results of the review
Fluvastatin, in dosages of 20 to 40 mg/day, lowered LDL-C levels by 19 - 25%, increased HDL-C levels by 4.2 - 7.8%, decreased TG levels by 8.1 - 10.4% and reduced Apo B levels by 12.3 - 16.4% in parallel with the fall in LDL-C (p<0.001).

Low-dose fluvastatin combined with niacin produced a 40% drop in LDL-C levels without untoward adverse events. Results from a titrate-to-goal study demonstrated that the favourable effects of fluvastatin on lipid profile are sustained over a long-term (96 week) period.

Measure of benefits used in the economic analysis
LDL-C level.

Direct costs
Costs and quantities were reported separately. The estimation of the quantities was based on actual data.

Cost of therapy was derived using the average (monthly) wholesale prices of fluvastatin supplies cited in the May 1994 Red Book Update.

Currency
US dollars

Sensitivity analysis
No sensitivity analysis was performed.

Estimated benefits used in the economic analysis
Mean percent reductions in LDL-C level (from the largest trial for each dose) with 20 mg/day and 40 mg/day of fluvastatin were 22.2% and 24%. The corresponding figures for lovastatin were 24% and 30%. Side effects of treatment were considered not relevant.

Cost results
The cost of fluvastatin therapy for 30 days was estimated to be $30.60 for 20 mg/day and $34.20 for 40 mg/day. The costs of lovastatin therapy for the same dosages were $59.90 and $107.81 respectively.
Synthesis of costs and benefits
The annual cost per 1% reduction in LDL-C level with fluvastatin 20mg and 40mg were $16.54 and $17.10 respectively whereas with lovastatin costs were 80% higher at $29.95 and $43.12 for 20mg and 40mg respectively.

Authors' conclusions
Reductions in LDL-C can be achieved with different therapies. However, the annual cost of therapy was considerably less with fluvastatin, which is the most economical means of achieving the efficacy and tolerability that physicians have come to expect from HMG-CoA reductase inhibitors.

CRD Commentary
1) The effectiveness analysis suffered as it is not based on a quantitative synthesis.

2) The cost of only one alternative, lovastatin, was reported. Although other alternatives like pravastatin and simvastatin have been mentioned as equally effective, no information on these costs were reported in the study.

3) An incremental analysis of the cost effectiveness ratios could be useful, since the comparator was more effective and more expensive than the intervention.

Bibliographic details

Indexing Status
Subject indexing assigned by CRD

MeSH
Anticholesteremic Agents /pharmacology /pharmacokinetics /administration & dosage; Comparative Study; Cost-Benefit Analysis; Hydroxymethylglutaryl CoA Reductases /antagonists & inhibitors; Hypercholesterolemia /drug therapy; Hyperlipidemias /drug therapy

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