



Title	Systematic Review and Cost-Effectiveness Evaluation of ‘Pill-In-The-Pocket’ Strategy for Paroxysmal Atrial Fibrillation Compared to Episodic In-Hospital Treatment or Continuous Antiarrhythmic Drug Therapy
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Aim

To summarize the results of the rapid reviews of clinical and cost effectiveness of the pill-in-the-pocket (PiP) approach to treat patients with paroxysmal atrial fibrillation (PAF); and to develop an economic model to assess the cost effectiveness of PiP compared with in-hospital treatment (IHT) or continuous antiarrhythmic drugs (AADs) in treating patients with PAF.

Conclusions and results

Overall, a PiP strategy seems to be slightly less effective (ie, fewer QALYs gained) than AAD and IHT, but is associated with cost savings. A PiP strategy seems to be more efficacious and cost effective than an AAD strategy in men aged over 65 years and women aged over 70 years, but this is principally due to a slight difference in QALY gained by the PiP strategy. A change in clinical practice that includes the introduction of PiP may save costs, but also involves a reduction in clinical effectiveness compared to existing approaches used to treat patients with PAF. Uncertainty in the available clinical data means there was insufficient evidence to support a recommendation for using a PiP strategy in patients with PAF. Further research should identify outcomes of interest, eg, adverse events and recurrent AF episodes in a randomized controlled trial (RCT) setting because the only clinical study addressing these issues is a descriptive analysis. Patient preferences also need to be considered in future research designs. The search strategies for clinical studies identified 201 RCTs, of which 12 were deemed relevant to the decision problem as they included drugs used to treat PAF. Summary data were abstracted from these studies to inform the development of the economic model only. The model results indicate that the PiP strategy is slightly less effective than the other two strategies, but also less costly – an incremental cost-effectiveness ratio of 45 916 pounds sterling (GBP) per QALY when compared to AAD, and GBP 12 424 per QALY when compared to IHT. One-way sensitivity analyses do not show substantial changes in relative cost effectiveness except in relation to the age of patients,

where PiP dominates AAD in men aged over 65 years and in women aged over 70 years. At a threshold of GBP 25 000 per QALY, IHT has the maximum probability of being cost effective at this threshold. For threshold values between GBP 0 and GBP 9266 per QALY, PiP is the option exhibiting the maximum probability of being cost effective. The AAD strategy has a poor probability of being cost effective under any threshold. However, none of the strategies considered has more than a 40% probability of being cost effective at a threshold of GBP 25 000 per QALY at any threshold level. This demonstrates the uncertainty around the parameters and its effect on the decision to choose any one strategy over the others.

Recommendations

See Executive Summary link www.hta.ac.uk/project/1944.asp.

Methods

Electronic searches identified clinical- and cost-effectiveness evidence describing the use of a PiP strategy to treat PAF; evidence published since the release of the Royal College of Physicians’ national guidelines on AF in June 2006. An additional search was undertaken, excluding the term ‘pill-in-the-pocket’ to identify economic evaluations and costing studies describing the comparator treatments to support the development of the economic model.

Further research/reviews required

See Executive Summary link www.hta.ac.uk/project/1944.asp.