ESTABLISHING THE COMPARATIVE EFFICACY AND SAFETY OF ACETYLCHOLINESTERASE INHIBITORS (ACHIS) AND MEMANTINE USING MIXED TREATMENT COMPARISON

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Introduction: Few trials comparing different ACHIs and memantine in AD patients have been conducted, meaning their relative effectiveness is difficult to establish.

Aims: Mixed treatment comparison allows both head-to-head and placebo-controlled trial data to be used to establish the relative efficacy and safety of donepezil, galantamine, rivastigmine (all formulations) and memantine.

Methods: A systematic review was conducted to identify the up-to-date evidence base for these drugs where used within the European licensing limits with regard to dose and AD severity. All data available for analysis was combined in mixed treatment comparisons carried out using a Bayesian approach.

Results: Combining results for cognitive outcomes (ADAS-cog, MMSE and SIB), no significant difference was identified between ACHIs for cognition at 3 or 6 months, nor for behaviour (NPI scale). Galantamine had the highest likelihood of being best treatment for both cognition and behaviour. It was significantly better than memantine although comparison is hindered by the different patient severity. Oral rivastigmine was associated with a higher risk of all and specific adverse events than other drugs. Risk of all adverse events was not otherwise different between treatments. The risks of diarrhoea, weight loss and anorexia were not different between these interventions or rivastigmine patch.

Conclusions: No clear difference is apparent between these interventions in terms of their efficacy (cognition and behaviour). The overall frequency of reported adverse events was similar between treatments.