OP83 Diagnostic Accuracy And Cost Effectiveness Of Automated Ankle Brachial Pressure Index Measurement For Peripheral Arterial Disease In People With Leg Ulceration

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Introduction: Leg ulcers are usually treated with compression therapy unless there is evidence of peripheral arterial disease (PAD). Compression may lead to vascular complications in people with PAD. Timely diagnosis and appropriate treatment are important to ensure the best patient outcomes. PAD is usually assessed using a manual ankle brachial pressure index (ABPI). Automated devices may reduce time to diagnosis and treatment of leg ulcers. This study investigated the diagnostic accuracy, clinical effectiveness, and cost effectiveness of automated ABPI measurement, compared with manual doppler testing, to detect PAD in people with leg ulcers.

Methods: We conducted a systematic review of studies of any design assessing automated devices in any population. Meta-analyses were conducted where possible. A decision tree and Markov model was used to capture lifetime costs, quality-adjusted life-years (QALYs), and cost effectiveness from a UK National Health Service perspective. Sensitivity analyses captured the uncertainty surrounding model assumptions and probabilistic sensitivity analyses described parameter uncertainty. Value of information analysis was conducted to identify future research priorities.

Results: A total of 22 studies provided diagnostic accuracy data for five automated devices, but there were no studies in people with leg ulcers. Meta-analysis of 12 studies demonstrated a pooled sensitivity of 64 percent (95% confidence interval [CI]: 57, 71) and a specificity of 96 percent (95% CI: 92, 98) for detecting PAD. Automated devices were cheaper to complete due to shorter test times, but the increased risk of inappropriate or delayed treatment due to inaccurate test results offset the cost savings and reduced the QALYs for automated devices.

Conclusions: Given the current limited evidence base, automated devices would only be cost effective if they can demonstrate substantial reductions in time to diagnosis in clinical practice. Value of information analysis identified the following research priorities: (i) to determine diagnostic accuracy in a population with leg ulcers; (ii) to determine the impact of test results on ulcer healing times, and (iii) to determine the risk of providing inappropriate treatment based on inaccurate test results.

OP85 Cost Effectiveness Of Prednisolone To Treat Bell's Palsy In Children: An Economic Evaluation Alongside A Randomized Controlled Trial

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Introduction: The cost effectiveness of treating Bell's palsy with prednisolone in children is unknown. This study aimed to assess the cost effectiveness of prednisolone, compared with placebo, in treating Bell's Palsy in children from a healthcare sector perspective.

Methods: This economic evaluation was a prospectively planned secondary analysis of a triple-blind randomized superiority trial conducted from 2015 to 2020 that compared prednisolone with placebo. The time horizon was six months after randomization. The 180 participants were aged from six months to 17 years and presented within 72 hours of onset of clinician diagnosed Bell's palsy. Interventions were oral prednisolone (1 mg per kg daily) or taste-matched placebo administered for ten days. Incremental cost-effectiveness ratios comparing prednisolone with placebo were estimated. Costs included medication costs, doctor visits, and medical tests over the six-month study period. Effectiveness was measured using quality-adjusted life-years (QALYs) derived from the Child Health Utility 9D instrument. Nonparametric bootstrapping was performed to capture uncertainties. Prespecified subgroup analyses by age (12 to 17 years versus <12 years) were performed.

Results: The mean cost per patient was USD188 in the prednisolone group and USD121 in the placebo group over the six-month period (difference USD66, 95% confidence interval [CI]: 47, 179). The mean QALYs gained over six months were 0.45 in the prednisolone group and 0.44 in the placebo group (difference 0.01, 95% CI: -0.01, 0.03). Prednisolone was very likely cost effective given a conventional willingness-to-pay threshold of USD 50,000 per QALY gained (the cost per additional QALY gained was USD6,625 using prednisolone compared with placebo). Subgroup analysis suggested that this was primarily driven by the high probability of prednisolone being cost effective in children aged 12 to 17 years (98%), compared with those younger than 12 years (51%).

Conclusions: This study provides new evidence to stakeholders and policy makers who are considering whether to make prednisolone available for treating Bell's palsy in children aged 12 to 17 years.

https://doi.org/10.1017/S0266462323001046 Published online by Cambridge University Press