HAEMORRHOIDAL ARTERY LIGATION PROCEDURE FOR THE TREATMENT OF SYMPTOMATIC GRADE II–III HEAMORRHOIDS: A TRIAL-BASED AND LONG-TERM MODEL-BASED ECONOMIC EVALUATION

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OBJECTIVE: To evaluate the cost-effectiveness of haemorrhoidal artery ligation (HAL) procedure versus rubber band ligation (RBL) for the treatment of symptomatic grade II–III haemorrhoids using data from the HubBLe study, a UK-based, multicentre randomised controlled trial.

METHODS: An economic evaluation was undertaken from the UK National Health Service (NHS) perspective including short-term trial-based and long-term model-based analyses. In the primary trial-based analysis, a seemingly unrelated regression model was fitted for estimating the mean difference in total cost and quality-adjusted life-years (QALYs) over 12-month time horizon. Cost-effectiveness results were expressed in terms of cost per QALY gained and cost per recurrence avoided. A parametric analysis and various deterministic sensitivity analyses were performed to address uncertainty around the primary cost-effectiveness result. In the long-term analysis, a three-health-state Markov model was built to extrapolate the analysis for a 4-year time horizon using data from HubBLe (costs, utilities and recurrence) and external studies (long-term recurrence). A probabilistic sensitivity analysis was performed to address uncertainty around the long-term cost-effectiveness result.

RESULTS: In the short-term trial-based analysis, the difference in total mean cost for HAL versus RBL was £1027 (95% confidence interval [CI], £782–£1272), p<0.001). The difference in mean QALYs were 0.01 (95% CI, -0.02–0.04). This led to an incremental cost-effectiveness ratio (ICER) of £104,427 per QALY gained. The cost per recurrence avoided was £4882 (95% CI, £3628–£6135). The primary cost-effectiveness results were robust to all sensitivity analyses. In the long-term analysis, the probabilistic ICER was of £21,798 per QALY, generated from an incremental total mean cost of £1125 (95% CI, £1117–£1133) and incremental mean QALYs of 0.05 (95% CI, 0.048–0.055).

CONCLUSIONS: HAL procedure was not cost-effective compared with RBL for the treatment of symptomatic grade II–III haemorrhoids at a cost-effectiveness threshold of £20,000 per QALY.