Haemorrhoids are common, with nearly 30000 procedures carried out in England in 2014/15, and result in a significant quality of life burden to patients and costs burden to the National Health Service (NHS) [1]. The objective of this study was 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 [1].

RESULTS

Trial-based analysis

In the 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 was 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-effectiveness acceptability curve (CEAC) generated from the parametric analysis applied on imputed trial data is presented in Figure 1.

Figure 1: CEAC showing the probability of cost-effectiveness at different threshold values

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.

METHODS

An economic evaluation (cost-utility analysis) was undertaken from the UK NHS perspective including short-term trial-based and long-term model-based analyses using recommended methods [2,3,4,5]. 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 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 analysis was performed to address uncertainty around the long-term cost-effectiveness result.

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REFERENCES