



Systematic review, network meta-analysis and exploratory cost-effectiveness model of randomized trials of minimally invasive techniques versus surgery for varicose veins.

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Abstract

BACKGROUND: A Health Technology Assessment was conducted to evaluate the relative clinical effectiveness and cost-effectiveness of minimally invasive techniques (foam sclerotherapy (FS), endovenous laser ablation (EVLA) and radiofrequency ablation (RFA)) for managing varicose veins, in comparison with traditional surgery.

METHODS: A systematic review of randomized clinical trials (RCTs) was undertaken to assess the effectiveness of minimally invasive techniques compared with other treatments, principally surgical stripping, in terms of recurrence of varicose veins, Venous Clinical Severity Score (VCSS), pain and quality of life. Network meta-analysis and exploratory cost-effectiveness modelling were performed.

RESULTS: The literature search conducted in July 2011 identified 1453 unique citations: 31 RCTs (51 papers) satisfied the criteria for effectiveness review. Differences between treatments were negligible in terms of clinical outcomes, so the treatment with the lowest cost appears to be most cost-effective. Total FS costs were estimated to be lowest, and FS was marginally more effective than surgery. However, relative effectiveness was sensitive to the model time horizon. Threshold analysis indicated that EVLA and RFA might be considered cost-effective if their costs were similar to those for surgery. These findings are subject to various uncertainties, including the risk of bias present in the evidence base and variation in reported costs.

CONCLUSION: This assessment of currently available evidence suggests there is little to choose between surgery and the minimally invasive techniques in terms of efficacy or safety, so the relative cost of the treatments becomes one of the deciding factors. High-quality RCT evidence is needed to verify and further inform these findings.

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Comment in

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