

Title: Endometrial ablation techniques for chronic refractory menorrhagia
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Aim

To assess the safety, effectiveness and cost-effectiveness of second-generation endometrial ablation procedures available in Australia (microwave endometrial ablation (MEA), thermal balloon endometrial ablation (TBEA), radiofrequency electrosurgery, hydrothermal ablation, cryoablation and endometrial thermal intrauterine thermotherapy compared with the first-generation endometrial procedures of laser and diathermy (which include transcervical resection of the endometrium (TCRE), rollerball endometrial ablation (RB), TCRE/RB and neodymium:yttrium aluminium garnet laser endometrial ablation (Nd:YAG)) in women with chronic refractory menorrhagia

Conclusions and results

Safety

Second-generation procedures are at least as safe as the first-generation procedures. A statistically significant increase in technical failures was observed for second-generation procedures.

Effectiveness

The second-generation procedures of MEA, TBEA, hydrothermal ablation, radiofrequency electrosurgery and cryoablation are at least as effective as first generation procedures. Pooled analysis showed no statistically significant difference in treatment success, patient satisfaction, quality of life or reintervention rates between first and second-generation techniques.

Cost-effectiveness

The first-generation techniques may dominate the second-generation techniques of MEA and TBEA, with the first-generation techniques costing less and producing more quality adjusted life years. The base case results were highly sensitive to particular parameter values used in the economic model, particularly the utility state for well after endometrial ablation. As a result, the cost-effectiveness of second-generation techniques relative to first-generation techniques remains unclear.

Recommendation

MSAC recommended that on the basis of the available evidence, second-generation endometrial ablation procedures appear to be at least as safe and as effective as first-generation endometrial ablation procedures. Considerations of cost effectiveness do not warrant a change to the current public funding arrangements. The Minister for Health and Ageing accepted this recommendation on 4 July 2005.

Method

MSAC conducted a systematic review of medical literature using the Cochrane Library, Medline, PreMedline, Current Content, CINAHL and EMBASE databases from 1966 - July 2004. Fourteen controlled trials comparing second-generation and first-generation procedures for the treatment of menorrhagia in pre-menopausal women were identified. A state transition (Markov) model was used to estimate an incremental cost-effectiveness ratio for the comparison of both MEA and TBEA with each first-generation technique.