A systematic review comparing hysterectomy with less-invasive treatments for abnormal uterine bleeding
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CRD summary
The review concluded that less-invasive options for abnormal uterine bleeding carried a significant risk of re-treatment and hysterectomy carried the highest risk of adverse events. These conclusions are based on a small number of heterogeneous studies and their reliability is uncertain.

Authors' objectives
To compare hysterectomy with less invasive alternatives for abnormal uterine bleeding.

Searching
MEDLINE was searched from 1950 to January 2011 for relevant studies in English. Search terms were reported. Bibliographies of retrieved articles were handsearched to identify further relevant evidence.

Study selection
Randomised controlled trials (RCTs) were eligible for inclusion if they compared hysterectomy with endometrial ablation, levonorgestrel intrauterine system or medical therapies for abnormal uterine bleeding caused by presumed ovulatory disorders or endometrial haemostatic dysfunction. Studies needed to report an outcome of interest: bleeding, quality of life, pain, sexual health, satisfaction, need for subsequent surgery and adverse events.

In included studies, mean age of participants (where reported) ranged from 40 to 46. The most commonly used intervention was total abdominal hysterectomy, followed by total vaginal hysterectomy and laparoscopic approach. Most comparative interventions used resectoscopic methods of endometrial ablation; one comparator arm used medical therapy.

The authors did not state how many reviewers selected studies for inclusion.

Assessment of study quality
Methodologic quality was assessed using a system modified from the Agency for Healthcare Research and Quality. Included studies were rated as (A) good, (B) fair or (C) poor based on the likelihood of bias and completeness of reporting. Grades could vary by outcome within each study. The overall strength of evidence for each outcome was rated as high, moderate, low or very low based on the GRADE system.

It was not clear how many reviewers performed the assessment.

Data extraction
Key study data were extracted by one reviewer and checked by a second, with discrepancies resolved by consensus among review group members. Reported adverse events were classified as major or minor.

The authors did not state how many reviewers extracted the data.

Methods of synthesis
The authors stated that where three or more trials used similar interventions and outcome definitions they would be combined in a meta-analysis. However, due to heterogeneity among the included studies, findings were presented in a narrative synthesis.

Results of the review
Length of follow-up ranged from four to 60 months.

Seven RCTs (six studies rated fair quality and one rated good) with 1,167 patients compared hysterectomy with endometrial ablation and reported superior long-term pain (low strength of evidence) and bleeding control (moderate...
strength of evidence) for hysterectomy.

One RCT (rated good quality) with 236 patients compared hysterectomy with levonorgestrel inter-uterine system and reported superior bleeding control (moderate strength of evidence) for hysterectomy.

One RCT (rated good and fair quality for different outcomes) with 63 patients compared hysterectomy with medical treatment and reported no differences on bleeding control, quality of life, pain, sexual health or satisfaction.

All less invasive treatment options were associated with a lower risk of adverse events but higher risk of additional treatments than hysterectomy. No other differences between treatments were found.

**Authors' conclusions**

Less invasive options for abnormal uterine bleeding resulted in improvement in quality of life but carried significant risk of re-treatment caused by unsatisfactory results. Hysterectomy was the most effective treatment for abnormal uterine bleeding but carried the highest risk of adverse events.

**CRD commentary**

The review question was clearly defined in terms of the participants, interventions, comparators, outcomes and study designs of interest. The search was limited to publications in English so some relevant evidence may have been missed. It was unclear whether attempts were made to minimise errors and bias during study selection. Efforts were made to establish the strength of the identified evidence.

Readers should note that despite reporting that hysterectomy was the most cost-effective treatment for abnormal uterine bleeding, no data on cost-effectiveness were presented in this review and the statement about cost may have been a typographical error.

The review's conclusions follow from the available data but the small number of heterogeneous studies of variable quality and lack of quantitative synthesis mean that the reliability of these conclusions is uncertain.

**Implications of the review for practice and research**

**Practice:** The authors stated that patients should receive counselling about the efficacy as well as burden and risk of each treatment option in the context of her disease manifestations to facilitate an informed choice.

**Research:** The authors stated that further research was required on the effectiveness on medical treatments, newer endometrial ablation techniques and minimally invasive hysterectomy approaches for abnormal uterine bleeding. This research should be sufficiently powered to detect a difference in symptoms related to bleeding and quality of life. Outcome measures related to important symptoms from abnormal uterine bleeding should be standardised, validated and used consistently in future research.

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