Treatment of endometrial polyps: a systematic review

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CRD summary
The review assessed the prevalence of premalignant/malignant tissue changes in women with endometrial polyps and the effectiveness of polyp removal on relief of bleeding symptoms and improvement of infertility. The authors concluded that an individual approach should be taken depending on individual preferences; this was appropriate given limitations in the quality of the evidence and potential bias in the review.

Authors' objectives
To assess the prevalence of premalignant and/or malignant tissue changes within endometrial polyps and to assess the effectiveness of endometrial polyp removal on relief of bleeding symptoms and improvement of infertility

Searching
MEDLINE and EMBASE were searched from 1950 to January 2010 and the Cochrane Library in January 2010, with no language restrictions; search terms were reported. Reference lists of retrieved studies and reviews were also searched.

Study selection
Studies of women with endometrial polyps, diagnosed by histopathological examination, hysteroscopy or saline infusion sonography, undergoing uterine polypectomy were eligible for inclusion. Eligible outcomes included prevalence of histologically confirmed atypia and/or malignancy within endometrial polyps, relief of abnormal uterine bleeding symptoms following polyp removal, and effect of polypectomy in infertile women in terms of pregnancy rate and live birth.

Included studies were of symptomatic, asymptomatic, premenopausal and postmenopausal women (where reported). Studies that assessed abnormal uterine bleeding symptoms mainly used subjective measures, but some studies used objective measures, including visual analogue scales, menorrhagia scores, or pictorial blood loss assessment charts. Some studies compared operative hysteroscopy/hysteroscopic resection with curettage, observation, or diagnostic hysteroscopy.

Two independent reviewers performed selection of relevant studies, with disagreements resolved by consensus.

Assessment of study quality
Methodological quality of the included studies was assessed using study design and relevant features of population, intervention and outcome. Randomised controlled trials (RCTs) were considered of highest quality, controlled observational studies of lower quality, and non-controlled studies of the lowest quality. The reviewers also considered prospective collection of data better than retrospective data collection.

The authors did not state how many reviewers assessed quality.

Data extraction
Data were extracted on the prevalence of premalignant and/or malignant tissue changes, relief of abnormal uterine bleeding symptoms, and effect on infertility according to how they were reported in the individual studies.

The authors did not state how many reviewers performed the data extraction.

Methods of synthesis
Where possible, studies were pooled, but details of the meta-analyses were not reported. For some outcomes, relative risks (RRs) for dichotomous data and mean differences (MDs) for continuous data were calculated, together with their
95% confidence intervals (CIs). The remaining results were synthesized in narrative format.

**Results of the review**

Forty-six studies met the criteria for inclusion in the review.

**Prevalence of premalignant or malignant tissue changes:** Twenty studies (n=9,267 women) were included in the review for the assessment of prevalence of premalignant and/or malignant tissue changes. There was one prospective controlled observational study, two prospective uncontrolled studies and 17 retrospective non-controlled studies.

The prevalence of premalignant tissue changes within endometrial polyps ranged from 0.2 to 23.8% and from 0 to 12.9% for malignant tissue changes. The pooled prevalence of premalignant tissue change was 0.8%; pooled prevalence of malignant tissue change was 3.1%. Prevalence of changes was higher in postmenopausal women than in premenopausal women.

**Relief of bleeding symptoms:** Fifteen studies (n=1,034 women) were included in the review for the assessment of relief of bleeding symptoms after polypectomy. There was one randomised controlled trial (RCT), two controlled observational studies (one prospective and one retrospective), and 12 non-controlled observational studies (one of which was prospective).

Results were mixed in the studies that assessed the effects of polypectomy on semi-objective measures of blood loss, although the RCT found less blood loss in treated women compared with untreated women (MD 0.7 points, 95% CI 0.11 to 1.3). Studies that measured subjective outcomes, such as perception of improvement or normal menstruation, reported an improvement in symptoms ranging from 75 to 100%. The RCT reported that polyp resection resulted in fewer gynaecological symptoms in most treated women than in untreated women (9% versus 37%, p<0.001).

**Infertility:** Eleven studies (n=935 infertile women) were included in the review for the assessment of effects of polypectomy on infertility. There was one RCT, three retrospective controlled observational studies and seven non-controlled observational studies (one of which was prospective).

In the RCT, cumulative pregnancy rates were 63% in the group that underwent polypectomy compared with 28% in the control group (p<0.001). In one non-randomised controlled observational study, cumulative live birth rate was 65% in the polypectomy group compared with 37% in the control group (RR 2.44, 95% CI 0.97 to 6.18). Two smaller controlled studies found that small endometrial polyps had no effect on in vitro fertilisation outcome. A total pooled pregnancy rate of 42% was reported in the remaining case series.

**Authors’ conclusions**

Due to limitations in the evidence base, an individual approach (taking into account women’s preferences) should be followed in the management of women with endometrial polyps.

**CRD commentary**

The review addressed a clear research question and inclusion criteria appear appropriate. A range of sources were searched for relevant studies with no language restrictions. However, no explicit attempts were made to find unpublished studies, so publication bias could not be ruled out. Appropriate methods were used to select studies, but methods were not reported for quality assessment or data extraction, so reviewer error and bias could not be ruled out.

Only two RCTs were identified and most of the included studies were small poor quality case series. The included studies also varied widely with heterogeneous populations and outcomes. Studies were pooled where possible, but results were mostly reported in narrative format.

The authors’ cautious conclusions seem appropriate, given substantial limitations in the quality of the evidence base and potential bias in the review process.

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

**Practice:** The authors stated that an individual approach should be taken in the management of women with endometrial
polyps.

Research: The authors stated that further RCTs of symptomatic and infertile women, with well defined outcome measures, were needed.

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