

Evaluation of abnormal uterine bleeding: comparison of three outpatient procedures within cohorts defined by age and menopausal status

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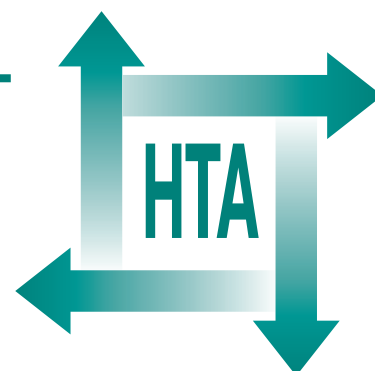
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Executive summary

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Executive summary

Objectives

To compare three outpatient methods of endometrial evaluation in terms of performance, patient acceptability and cost-effectiveness.

Methods

Design

Pragmatic unblinded trial randomised separately within three groups determined by risk of endometrial cancer: high risk (postmenopausal women), moderate risk (premenopausal women either aged ≥ 40 years, or aged < 40 years but with specific risk factors for endometrial cancer) and low risk (premenopausal women aged < 40 years).

Setting

The gynaecology outpatient clinic of a large city hospital in Edinburgh, Scotland.

Subjects

Women referred for investigation and management of abnormal bleeding between January 1999 and May 2001 ($n = 683$ randomised).

Interventions

Investigations were: blind biopsy alone, hysteroscopy with biopsy, ultrasound evaluation including transvaginal ultrasound, and, in the low-risk group, the option of no investigation. To ensure adequate evaluation of all women, combinations of investigations were assigned, with the alternative options for a particular risk group as far as possible reflecting, at the time of funding application, consensus clinical practice for women with such risk. Within this design, two devices for obtaining endometrial biopsy were compared, the Pipelle sampler and the Tao brush.

Main outcome measures

Successful (informative) completion of the investigation, acceptability of the investigation method to women, women's satisfaction with clinic care in the short term and at 10 months and 2 years of follow-up, and cost-effectiveness to the end of the investigation.

Results

Overall 67% of those approached about the study were recruited. Recruitment met the target for postmenopausal women ($n = 200$, 100% of target) and nearly met it for moderate-risk women ($n = 326$, 82%), but was unsuccessful for low-risk women ($n = 157$, 52.3%), mainly because of changes in referral patterns and in investigation practice for this group. Over 90% of women completed all their recruitment questionnaires, 82% completed all their randomised investigations and over 83% returned their review of the clinic visit. There were high rates of follow-up to 10 months (77%) and of case-note review (98%).

Minor adverse events (e.g. shock, patient distress) did not occur for ultrasound, but occurred in 16% and 10% of women for hysteroscopy and biopsy procedures respectively. More women reported biopsy and hysteroscopy as markedly unpleasant, and for both these methods after-effects (bleeding and abdominal discomfort) were common. Nevertheless, the vast majority of women (87%) were reassured by their clinic visit and glad they had their investigation (94%), and overall 78% of women thought that their clinic visit was very or extremely worthwhile. There were only modest differences between investigations in these positive views. Women who had 'biopsy only' expressed greater wish to have had more investigation.

In high- and moderate-risk women, 15% intention to treat (ITT) of the Pipelle biopsies and 11% of hysteroscopies could not be undertaken for medical reasons, mainly failed insertion. Pipelle biopsy provided an acceptable endometrial sample for 79% of moderate-risk women, but only 43% of high-risk women. The Tao brush gave similar performance in moderate-risk women (77%), but was more successful than the Pipelle sampler in obtaining adequate samples in postmenopausal (high-risk) women (72%, $p < 0.001$). More women preferred the Tao brush than preferred the Pipelle sampler. Furthermore, adequate samples were more likely to be obtained if biopsy was undertaken at the time of hysteroscopy for both the Pipelle ($p = 0.027$) and Tao brush ($p = 0.002$).

There were significantly more successful visualisations for ultrasound than for hysteroscopy in both the low-risk (97% vs 65%, intention to treat, $p = 0.003$) and the moderate-risk group (88% vs 77%, $p = 0.002$), and a similar but non-significant trend in the high-risk group. Ultrasound was significantly better than hysteroscopy at detecting fibroids (32% vs 13%, $p = 0.006$), but hysteroscopy significantly better for polyps (13% vs 4%, $p < 0.001$).

At the 10-month follow-up, high-risk women who had been investigated by hysteroscopy (with biopsy) had the most positive views of their clinic experience, but this effect had largely disappeared by 24 months. In the moderate-risk group, the subgroup randomised to biopsy alone gave the most negative responses about their clinic experience and health now. Women wishing they had more investigation comprised 22% of moderate-risk women and 38% of low-risk women, but only 14% of postmenopausal women. At follow-up the moderate-risk women (with menstrual bleeding problems), compared with postmenopausal women, had much worse ratings for clinic experience and health now, in that less than half of them judged their symptoms 'much improved' by 10 months and one-quarter reported that their problem had not been cured.

Resource use tended to be higher in the moderate- and low-risk women, because of the need to manage their abnormal bleeding symptoms. There was minimal difference in cost-effectiveness between investigation options in the high-risk group, with the option involving hysteroscopy being marginally better than ultrasound (£88/woman). The most cost-effective investigation in the moderate-risk group was biopsy alone (saving £128–212/woman compared with the other options) and in the low-risk group ultrasound (£74–452/woman better).

Conclusions

This study has highlighted the complexity of the investigation pathways travelled by women referred for abnormal bleeding. Decision-making about investigation and understanding would be clarified if postmenopausal women were studied separately from premenopausal women with menstrual bleeding problems. For postmenopausal women exclusion of cancer is a main objective, so once investigation has been completed discharge

follows, but in the woman with abnormal menstrual bleeding, even if serious pathology is excluded, the original presenting symptoms require management.

About 60% of premenopausal women with abnormal bleeding reported that their symptoms were not 'much improved' at 10 months. Research is needed to understand this phenomenon, and to explore ways to integrate patient factors into optimising evaluation and treatment in these cases. The significance of benign pathologies in this group also requires clarification.

Given the relatively small differences observed in cost-effectiveness, there is justification for allowing other issues (such as clinician preferences and women's perspectives) to influence decisions as to the investigation method. The clinicians expressed interest in the Tao brush being made available for their use. Its introduction would have resource implications, in particular the training of pathology staff. The Tao brush is superior in obtaining adequate samples, so it should be considered the method of choice for postmenopausal women, or at least be readily available as a back-up technique where Pipelle sampling has failed.

At the time of investigation ultrasound was much more acceptable to women than hysteroscopy and biopsy, but hysteroscopy was not more unpleasant to women than biopsy. Women having hysteroscopy were pleased to have had the investigation and women having this randomisation option were least likely to have wanted more investigation, whereas those having biopsy only wished that they had had more investigation.

There is scope to make better use of patient factors to inform decisions as to the most efficient and acceptable method of investigation for an individual woman. Additional analyses, using data available as a result of this study, will contribute to this agenda.

Publication

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NHS R&D HTA Programme

The research findings from the NHS R&D Health Technology Assessment (HTA) Programme directly influence key decision-making bodies such as the National Institute for Clinical Excellence (NICE) and the National Screening Committee (NSC) who rely on HTA outputs to help raise standards of care. HTA findings also help to improve the quality of the service in the NHS indirectly in that they form a key component of the 'National Knowledge Service' that is being developed to improve the evidence of clinical practice throughout the NHS.

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