

UPDATE Abnormal uterine bleeding



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Coverage and clinical perspective on recent AUB studies, including optimal procedure order for evaluation, cost-effectiveness of 4 treatment options, and ulipristal for leiomyoma-related bleeding

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Over the past year, a few gems have been published to help us manage and treat abnormal uterine bleeding (AUB). One study suggests an order of performing hysteroscopy and endometrial biopsy,

another emphasizes the continued cost-effectiveness of the levonorgestrel-releasing intrauterine system (LNG-IUS), while a third provides more evidence that ulipristal acetate is effective in the management of leiomyomas.

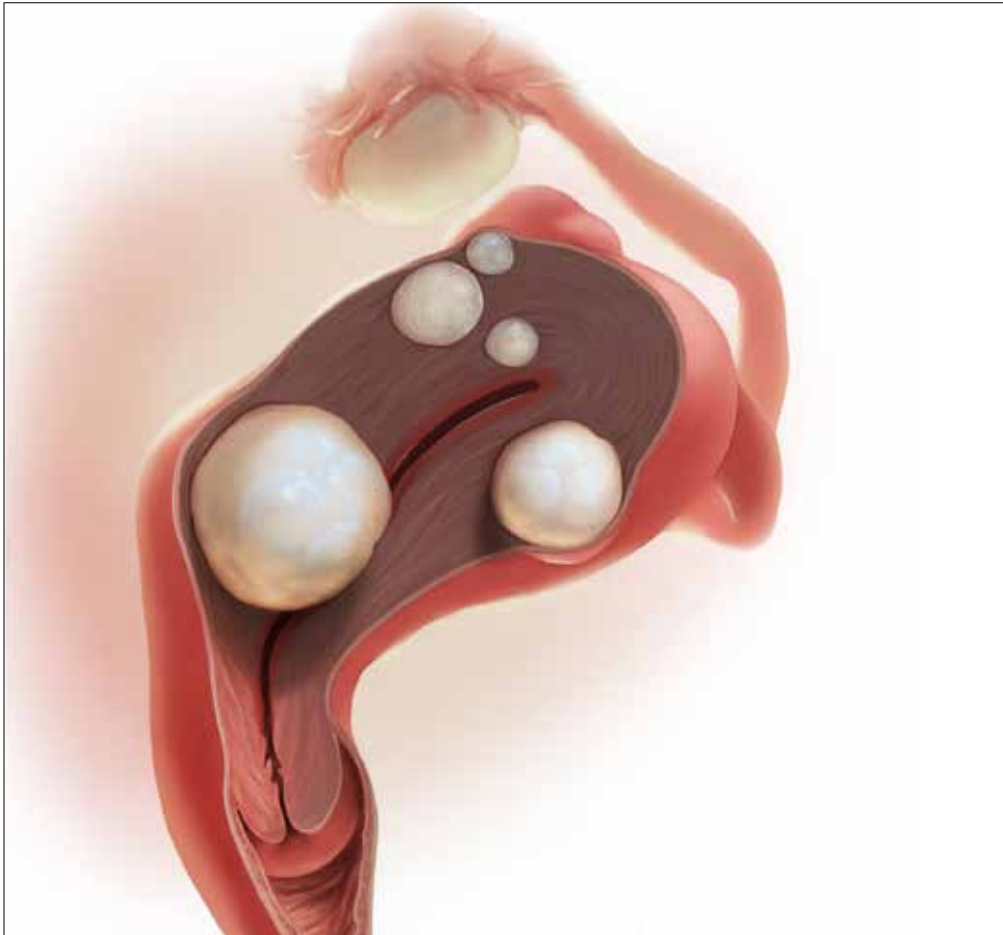
Optimal order of office hysteroscopy and endometrial biopsy?

Sarkar P, Mikhail E, Schickler R, Plosker S, Imudia AN. Optimal order of successive office hysteroscopy and endometrial biopsy for the evaluation of abnormal uterine bleeding: a randomized controlled trial. *Obstet Gynecol.* 2017;130(3):565-572.

Office hysteroscopy and endometrial biopsy are frequently used in the evaluation of women presenting with AUB. Sarkar and colleagues conducted a study aimed at estimating the optimal order of office hysteroscopy and endometrial biopsy when performed successively among premenopausal women.

Pain perception, procedure duration, and other outcomes

This prospective single-blind randomized trial included 78 consecutive patients. The primary outcome was detection of any difference in patients' global pain perception based on the order of the procedures. Secondary outcome measures included determining whether the procedure order affected the duration of the procedures, the adequacy of the endometrial biopsy sample, the number of attempts to obtain an adequate tissue sample, and optimal visualization of the endometrial cavity during office hysteroscopy.



Uterine leiomyomas are common in reproductive-age women, affecting up to 70% of white women and more than 80% of black women. A recent study suggested that an oral medication currently under investigation in the United States may be useful for the medical management of abnormal uterine bleeding associated with uterine leiomyomas.

FAST TRACK

The order in which the procedures were performed had no effect on patients' pain perception or on the overall procedure duration

Order not important, but other factors may be

Not surprisingly, the results showed that the order in which the procedures were performed had no effect on patients' pain perception or on the overall procedure duration. Assessed using a visual analog scale scored from 1 to 10, global pain perception in the hysteroscopy-first patients (group A, n = 40) compared with the biopsy-first patients (group B, n = 38) was similar (7 vs 7, $P = .57$; 95% confidence interval [CI], 5.8–7.1). Procedure duration also was similar in group A and group B (3 vs 3, $P = .32$; 95% CI, 3.3–4.1).

However, when hysteroscopy was performed first, the quality of endometrial cavity images was superior compared with images from patients in whom biopsy was performed first. The number of endometrial

biopsy curette passes required to obtain an adequate tissue sample was lower in the biopsy-first patients. The endometrial biopsy specimen was adequate for histologic evaluation regardless of whether hysteroscopy or biopsy was performed first.

WHAT THIS EVIDENCE MEANS FOR PRACTICE

Sarkar and colleagues suggested that their study findings emphasize the importance of individualizing the order of successive procedures to achieve the most clinically relevant result with maximum ease and comfort. They proposed that patients who have a high index of suspicion for occult malignancy or endometrial hyperplasia should have a biopsy procedure first so that adequate tissue samples can be obtained with fewer attempts. In patients with underlying uterine anatomic defects, performing hysteroscopy first would be clinically relevant to obtain the best images for optimal surgical planning.

Which treatment for AUB is most cost-effective?

Spencer JC, Louie M, Moulder JK, et al. Cost-effectiveness of treatments for heavy menstrual bleeding. *Am J Obstet Gynecol.* 2017;217(5):574.e1-574.e.9.

The costs associated with heavy menstrual bleeding are significant. Spencer and colleagues sought to evaluate the relative cost-effectiveness of 4 treatment options for heavy menstrual bleeding: hysterectomy, resectoscopic endometrial ablation, nonresectoscopic endometrial ablation, and the LNG-IUS in a hypothetical cohort of 100,000 premenopausal women. No previous studies have examined the cost-effectiveness of these options in the context of the US health care setting.

and the complications of each treatment were markedly different between treatment options. The LNG-IUS was superior to all alternatives in terms of both cost and quality, making it the dominant strategy. The 5-year cost for the LNG-IUS was \$4,500, about half the cost of endometrial ablation (\$9,500) and about one-third the cost of hysterectomy (\$13,500). When examined over a range of possible values, the LNG-IUS was cost-effective compared with hysterectomy in the large majority of scenarios (90%).

If the LNG-IUS is removed from consideration because of either patient preference or clinical judgment, the decision between hysterectomy and ablation is more complex. Hysterectomy results in better quality of life in the majority of simulations, but it is cost-effective in just more than half of the simulations compared with either resectoscopic or nonresectoscopic ablation. Therefore, consideration of cost, procedure-specific complications, and patient preferences may guide the therapeutic decision between hysterectomy and endometrial ablation.

FAST TRACK

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Decision tree used for analysis

The authors formulated a decision tree to evaluate private payer costs and quality-adjusted life-years over a 5-year time horizon for premenopausal women with heavy menstrual bleeding and no suspected malignancy. For each treatment option, the authors used probabilities to estimate frequencies of complications and treatment failure leading to additional therapies. They compared the treatments in terms of total average costs, quality-adjusted life years, and incremental cost-effectiveness ratios.

Comparing costs, quality of life, and complications

Quality of life was fairly high for all treatment options; however, the estimated costs

WHAT THIS EVIDENCE MEANS FOR PRACTICE

The 52-mg LNG-IUS was superior to all treatment alternatives in both cost and quality, making it the dominant strategy for the treatment of heavy menstrual bleeding.

Ulipristal may be useful for managing AUB associated with uterine leiomyomas

Simon JA, Catherino W, Segars JH, et al. *Ulipristal acetate for treatment of symptomatic uterine leiomyomas: a randomized controlled trial. Obstet Gynecol.* 2018;131(3):431–439.

Managing uterine leiomyomas is a common issue for gynecologists, as up to 70% of white women and more than 80% of black women of reproductive age in the United States have leiomyomas.

Ulipristal acetate is an orally administered selective progesterone-receptor modulator that decreases bleeding and reduces leiomyoma size. Although trials conducted in Europe found ulipristal to be superior to placebo and noninferior to leuprolide acetate in controlling bleeding and reducing leiomyoma size, those initial trials were conducted in a predominantly white population.

Study assessed efficacy and safety

Simon and colleagues recently conducted a randomized double-blind, placebo-controlled trial designed to assess the safety and efficacy of ulipristal in a more diverse population, such as patients in the United States. The 148 participants included in the

study were randomly assigned on a 1:1:1 basis to once-daily oral ulipristal 5 mg, ulipristal 10 mg, or placebo for 12 weeks, with a 12-week drug-free follow-up.

Amenorrhea achieved and quality of life improved

The investigators found that ulipristal in 5-mg and 10-mg doses was well tolerated and superior to placebo in both the rate of and the time to amenorrhea (the coprimary end points) in women with symptomatic leiomyomas. In women treated with ulipristal 5 mg, amenorrhea was achieved in 25 of 53 (47.2%; 97.5% CI, 31.6–63.2), and of those treated with the 10-mg dose, 28 of 48 (58.3%; 97.5% CI, 41.2–74.1) achieved amenorrhea ($P < .001$ for both groups), compared with 1 of 56 (1.8%; 97.5% CI, 0.0–10.9) in the placebo group.

Ulipristal treatment also was shown to improve health-related quality of life, including physical and social activities. No patient discontinued ulipristal because of lack of efficacy, and 1 patient in the placebo group stopped taking the drug because of an adverse event. Estradiol levels were maintained at midfollicular levels during ulipristal treatment, and endometrial biopsies did

FAST TRACK

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Consider quality and cost in AUB treatment

AUB continues to be a significant issue for many women. As women's health care providers, it is important that we deliver care with high value (Quality ÷ Cost). Therefore, consider these takeaway points:

- The LNG-IUS consistently delivers high value by affecting both sides of this equation. We should use it more.
 - Although we do not yet know what ulipristal acetate will cost in the United States, effective medical treatments usually affect both sides of the Quality ÷ Cost equation, and new medications on the horizon are worth knowing about.
 - Last, efficiency with office-based hysteroscopy is also an opportunity to increase value by improving biopsy and visualization quality.
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not show any atypical or malignant changes. These results are consistent with those of the studies conducted in Europe in a predominantly white, nonobese population.

Results of this study help to define a niche for ulipristal when hysterectomy is not an option for women who wish to preserve fertility. Further, although leuprolide is used for preoperative hematologic improvement of anemia, its use results in hypoestrogenic adverse effects. ●

WHAT THIS EVIDENCE MEANS FOR PRACTICE

The findings from this and other studies suggest that ulipristal may be useful for the medical management of AUB associated with uterine leiomyomas, especially for patients desiring uterine- and fertility-sparing treatment. Hopefully, this treatment will be available soon in the United States.