

TYPE II CLINICAL INQUIRIES

How useful is ultrasound to evaluate patients with postmenopausal bleeding?

■ EVIDENCE-BASED ANSWER

Using a threshold of ≤ 5 mm, transvaginal ultrasound (TVUS) can be used to identify those patients with postmenopausal bleeding who are at low risk for endometrial cancer, polyps, or atypical hyperplasia at a sensitivity comparable with that of endometrial biopsy and dilatation and curettage (D&C) (strength of recommendation: **B**, based on systematic reviews of consistent exploratory cohort studies.)

■ EVIDENCE SUMMARY

A 1998 meta-analysis of 35 exploratory cohort studies published between 1966 and 1996 included a total of 5892 women with postmenopausal bleeding.¹ TVUS evaluations were followed by endometrial tissue sampling and results were compared. Using endometrial thickness of ≤ 5 mm as the threshold, ultrasound was very accurate at *ruling out* patients with endometrial cancer but only fair at *diagnosing* cancer (likelihood ratio for a positive test [LR+]=2.5; LR for a negative test [LR-]=0.06). In addition, the 5-mm threshold was accurate at ruling out any endometrial abnormality (cancer, polyp, atypical hyperplasia: LR- = 0.01). The authors suggested that TVUS can reliably rule out significant endometrial disease among postmenopausal women with vaginal bleeding.

A 2002 meta-analysis of 57 cohort studies, without consistently applied reference standards, published between 1966 and 2000 included a total of 9031 women with postmenopausal bleeding.² Because many of the studies were felt to use inadequately stringent criteria for diagnosis, the authors limited their final analysis to

TABLE

Differential diagnosis of postmenopausal bleeding

Histologic diagnosis	Incidence (n=1138)
Atrophy	59%
Endometrial polyp	12%
Hyperplasia	10%
Endometrial cancer	10%
Hormonal effect	7%
Cervical cancer	2%
Other	<1%

Source: Karlsson et al 1995.⁴

only 4 studies. They concluded that a negative result using a 5-mm threshold rules out endometrial pathology with fair certainty (LR- = 0.21).

■ RECOMMENDATIONS FROM OTHERS

A Consensus Conference Statement from the Society of Radiologists in Ultrasound recommended that either TVUS or endometrial biopsy could be used in the initial evaluation of patients with postmenopausal bleeding.³ Using a threshold of >5 mm as abnormal, they concluded that the sensitivities of TVUS and endometrial biopsy are comparable when "sufficient tissue" is obtained with endometrial biopsy. They felt that data was currently insufficient to clearly state which technique is more effective.

REFERENCES

1. Smith-Bindman R, Kerlikowske K, Feldstein VA, et al. Endovaginal ultrasound to exclude endometrial cancer and other endometrial abnormalities. *JAMA* 1998; 280:1510-1517.
2. Gupta JK, Chien PF, Voit D, Clark TJ, Khan KS. Ultrasonographic endometrial thickness for diagnosing endometrial pathology in women with postmenopausal bleeding: a meta-analysis. *Acta Obstet Gynecol Scand* 2002; 81:799-816.

CONTINUED

The false negative rate for TVUS compares favorably with endometrial biopsy and D&C

3. Evaluation of the woman with postmenopausal bleeding. Society of Radiologists in Ultrasound-Sponsored Consensus Conference statement. *J Ultrasound Med* 2001; 20:1025-1036.
4. Karlsson B, Granberg S, Wikland M, et al. Transvaginal ultrasonography of the endometrium in women with postmenopausal bleeding—a Nordic multicenter study. *Am J Obstet Gynecol* 1995; 172:1488-1494.

CLINICAL COMMENTARY
TVUS is an effective, relatively noninvasive way to rule out significant pathology

Postmenopausal women need accurate diagnostic evaluation when they have abnormal bleeding. While the majority have a benign cause of bleeding, such as atrophic endometrium, many have significant pathology, including cancer (**Table**). Many older patients are reluctant to undergo invasive sampling studies. Cervical stenosis, a common occurrence in this age group, further complicates matters. Evidence suggests that TVUS with a full endometrial thickness of 5 mm or less, full visualization of the cavity, and no other abnormal findings, can identify patients at low risk for significant abnormalities. The false negative rate for TVUS (8%) compares quite favorably with endometrial biopsy (5%–15%) and even D&C (2%–6%).¹ TVUS is an effective and relatively noninvasive strategy for ruling out significant pathology. Given the false negative rates of these techniques, all patients with postmenopausal bleeding require close follow-up.

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