Is this woman going through menopause?

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Research question
What are the best questions to ask and tests to run to diagnose menopause?

Type of article and design
Systematic review using three clinical scenarios.

Relevance to family physicians
Informed consumers are a good thing, but one of the side effects of being informed is their increased desire for testing. Patients have, I would say, an incredible faith in diagnostic testing, especially tests that involve high technology.

Test results are often viewed by the public as black and white. Those of us who have dabbled in the science of diagnosis have found them very gray territory. An increasing number of patients are asking to be tested for a variety of conditions; requests for testing to confirm menopause are common. This is understandable, given that the transition can be complex and troubling for women. One Scottish survey (6096 women aged 45 to 54) found that 84% of women had experienced at least one classic symptom of menopause, and 45% found these symptoms a problem.1 As well, an increasing number of women are taking oral contraceptives in their 40s and 50s and are wondering if their true hormonal state is menopausal.

Overview of study and outcomes
The authors searched MEDLINE from 1966 to 2001 using logical inclusion criteria regarding perimenopausal diagnostics. The search yielded 1246 articles, of which 16 met the inclusion criteria. Sensitivity, specificity, and likelihood ratios with confidence intervals were calculated for diagnostic tests.

Results
Age. There are no data on women younger than 45 years, even though by that age, 40% will have started or completed the menopause transition (32% perimenopausal, 8% postmenopausal). By 50 years old, 75% will have started or completed the menopause transition (38% perimenopausal, 37% postmenopausal). By 55 years old, only 2% of women are premenopausal.

Self-assessment. Several factors are associated with menopausal symptoms.

Hot flashes: Most North American women (50% to 80%) experience hot flashes; only 6% experience flashes that last longer than 6 minutes. There are cultural differences because only 10% to 20% of Indonesian and 10% to 25% of Chinese women report hot flashes. Night sweats are common and can interfere with sleep.

Vaginal dryness: An estimated 18% to 21% of women experience dryness.

Variable sexual interest: Most of an Australian sample of women reported no change; 31%...
indicated a decrease, and 7% reported an increase in sexual interest. This aspect is obviously multifactorial and could be related to physiologic changes.

**Urinary incontinence:** Some studies have found an association between declining estrogen levels and urinary incontinence; others have not. Prevalence of urinary incontinence is 26% to 55% in middle-aged women.

**Depressed mood:** Although not necessarily caused by menopause, North American and British cohorts reveal higher rates of depression among menopausal women who have previously suffered from depression. Considerable anecdotal evidence indicates vulnerability to mood swings and irritability.

**Age of mother’s menopause:** Women with premature (<40 years) and early (<45 years) menopause report that their mothers were significantly younger at menopause.

**Smoking:** Some data suggest no difference in age at menopause between smokers and non-smokers; other research indicates that smokers likely experience menopause 1 to 2 years earlier than matched controls.

**Hysterectomy status:** Some evidence shows that women who have had hysterectomies with preservation of the ovaries experience more severe menopausal symptoms.

**Laboratory tests.** Several laboratory tests have been used to determine women’s menopausal status.

**Follicle-stimulating hormone (FSH):** High FSH levels indicate menopausal changes in the ovaries. These levels can fluctuate considerably each month depending on ovulation.

**Estradiol:** In late or postmenopausal women, estradiol levels decline, but as with FSH, values can vary greatly.

**Inhibin A or B:** Declining inhibin B levels lead to rising FSH levels. When all the above factors were analyzed to see whether there is a key item in the history, researchers found that no item was overly helpful (all positive likelihood ratios were <5; all negative likelihood ratios were >-1.25). Hot flashes, night sweats, and vaginal dryness were most helpful for diagnosing the condition. High FSH or low inhibin B levels provided some evidence for establishing perimenopause, but normal values could not rule it out.

**Analysis of methodology**
This was a well conducted, clinically useful systematic review. The evidence base for the review, however, was lacking, so some of the conclusions should reflect that many of the studies did not report enough data to calculate sensitivity, specificity, and likelihood ratios.

**Application to clinical practice**
The authors present three scenarios. In case 1, a woman presents at age 45 after having a hysterectomy at age 42 for uterine fibroids. She is now having hot flashes and has been feeling irritable for the past month. The authors suggest that you tell her that based on her age and symptoms, she is highly likely to be perimenopausal; offer her symptomatic treatment; and not do any testing.

Case 2 is a 41-year-old woman who smokes 20 packs a year and thinks she is starting menopause. Given her age and smoking history, the authors calculate her likelihood of menopause to be 18% to 30%. They advise telling her that she might be approaching menopause and counseling her regarding contraception and smoking.

Case 3 is a 47-year-old woman who has been taking oral contraceptives for the past 25 years. She is sexually active and wonders about her menopausal status and whether she can discontinue contraceptives. The authors point out that, because of her age, her pretest probability is approximately 50%, but that her menstrual patterns cannot be properly assessed because of her contraceptive use. They suggest advising her that ovulation is still possible and recommending continuing contraceptives and considering discontinuing them at age 50 to 55.

**Bottom line**
- Current evidence suggests that no single item in the history or laboratory tests can definitively diagnose perimenopause.
This is challenging because patients want test results to be “clear-cut,” and we want to be patient centred. Given the evidence, however, most women should be advised that age is a good predictor of probability and that the gradual cessation of menses, with or without symptoms of menopause, is the best diagnostic key.²

Points saillants

Les données scientifiques actuelles font valoir qu’aucun fait unique dans l’anamnèse ou les résultats de laboratoire ne permet de poser un diagnostic définitif de périménopause.

C’est une situation compliquée parce que les patientes voudraient des résultats de tests convaincants et que nous tenons à être centrés sur nos patients. Compte tenu des données scientifiques, il faudrait dire aux femmes, dans la majorité des cas, que l’âge est un bon prédicteur de probabilité et que la cessation graduelle des menstruations, avec ou sans symptômes de ménopause, représente le meilleur indicateur de ce diagnostic².

References


Critical Appraisal reviews important articles in the literature relevant to family physicians. Reviews are by family physicians, not experts on the topics. They assess not only the strength of the studies but the “bottom line” clinical importance for family practice. We invite you to comment on the reviews, suggest articles for review, or become a reviewer. Contact Coordinator Michael Evans by e-mail michael.evans@utoronto.ca or by fax (416) 603-5821.