other endocervical specimens, because it was the standard test procedure used at the main study site. The fact that this test was done first may have had some impact on the increased detection rates.

Because Chlamydia can infect either the urethra or cervix without being detected in the other, no single specimen source will be 100% sensitive in the detection of infection; there will always be some "false negatives." Sensitivities for the various single tests were highest (63%) for both urine and endocervical LCR. Endocervical and urethral PCR tests had sensitivities of 52% and 55.6%, respectively. The sensitivity of endocervical culture was only 37% and urethral culture 22.2%. Urine PCR tests had a sensitivity of 44.4% in detecting any chlamydial infection. Note that all of these indicate a substantial proportion of false-negative tests in infected persons.

Various combinations of test strategies were also evaluated. The highest sensitivity (85.2%) was associated with a combination of urine LCR and endocervical LCR tests. Other strategies tested included combining self-collected vaginal swabs with urine PCR testing (sensitivity 59.3%), self-collected vaginal swabs with endocervical PCR (sensitivity 59.3%), and urine PCR with endocervical PCR (sensitivity 55.6%). The predictive values of a negative test (the likelihood that a negative test indicates an uninfected person) were generally greater than 80%; the highest negative predictive values (90% or higher) were the single and combination LCR tests, as well as the combination of self-collected vaginal and urine PCR tests.

Specificity of the various testing strategies generally fell in the 99% to 100% range; only the combination of urine LCR and endocervical LCR, which had the highest sensitivity, demonstrated a lower specificity (90.9%), indicating a higher rate of false positives. There is generally a trade-off between sensitivity and specificity. The positive predictive value of most tests (the likelihood that a positive test indicates an infected person) exceeded 90%, with the exception of the urine and combination LCR tests.

Screening sexually active young women is essential in effecting a reduction in adverse sequelae of chlamydial infection. The validity of the various tests of single anatomic sites in detecting chlamydial infection was lower in this study than what is generally reported. Clinicians should bear the substantial possibility of false-negative tests in mind when screening. Tests used in screening must not only be valid, reliable, inexpensive, and simple to perform, they must also be acceptable to the person being tested. Further research that addresses the validity and acceptability of combination strategies using self-collected specimens will be of great interest.

HYSTERECTOMY VERSUS MEDICAL TREATMENT

Kupperman M, Varner RE, Summitt RL, et al. for the MS Research Group. Effect of hysterectomy vs. medical treatment on health related quality of life and sexual functioning. JAMA 2004;291: 1447–55.

Hurskainen R, Teperi J, Rissanen P, et al. Clinical outcomes and costs with the levonorgestrel-releasing intrauterine system or hysterectomy for treatment of menorrhagia: Randomized trial 5-year follow-up. JAMA 2004;291:1456–63.

Hysterectomy is the most common non-obstetric major surgical procedure in the United States; it is estimated that a woman in this country has an approximate 25% risk of hysterectomy in her lifetime. The vast majority of procedures are done electively prior to menopause for bleeding and other reasons. The purpose of the study by the MS Research Group was to compare the effects of hysterectomy versus medical treatment on health-related quality of life among women with abnormal uterine bleeding.

Sixty-three premenopausal women who were under care for abnormal uterine bleeding and had not improved with cyclic medroxyprogesterone treatment were randomized to either hysterectomy or continued medical treatment. The medical treatment was chosen by participating gynecologists and varied. The preferred regimen was a low-dose oral contraceptive with prostaglandin synthetase inhibitor, although other therapeutic options were used as well. Women were followed for 2 years after randomization; health-related quality of life was evaluated at periodic intervals. The primary instrument was the Mental Component summary (MCS) of the 36-item Short Form health survey (SF-36). Secondary measures included a physical component summary (PCS) of the SF-36, symptom resolution and satisfaction, body image, and sexual functioning. Half of the participants were black and had annual family incomes under $25,000. Preintervention scores revealed moderate impairment in health-related quality of life; the median duration of abnormal bleeding was 4 years. Two thirds of the participants had fibroids.

Clinicians should note that in the prerandomization phase of this study, women with abnormal bleeding who had not yet tried cyclic medroxyprogesterone completed a 3- to 5-month course of medical treatment. Outcomes data were collected for the women in the premedication trials. Of these women, 57% were satisfied with their status on medication; 40% were not and were then eligible for randomization into the study. Fifty-nine women were included in the analysis. Two in each group were lost to follow-up. At 6 months follow-up, women in the hysterectomy group demonstrated a consistent and significant improvement in overall mental health, symptom resolution and satisfaction, sexual functioning, sleep problems, and general health perceptions. By the end of the first year, 43% of participants in the medical treatment group requested and received a hysterectomy; three more women did so in year 2, resulting in 53% of the medical treatment group crossing over to hysterectomy. At the 2-year follow-up, the levels of improvement were nearly the same in the originally assigned hysterectomy group. Those in the medical group who crossed over to hysterectomy also experienced signif-

icant improvements in the primary and most of the secondary outcomes. After 2 years, those who remained on medical therapy did not show improvement in the primary outcomes, although they did have significant improvement in 7 of 13 secondary outcome variables.

This is the first randomized trial in the United States comparing hysterectomy with medical treatment. Although the sample is small, the data can be of some use to clinicians counseling premenopausal women with abnormal uterine bleeding about their options. Hysterectomy was associated with significantly more improvement in health-related quality of life after 6 months of follow-up among women with abnormal uterine bleeding who were dissatisfied with medroxyprogesterone treatment. However, approximately half of the women who were in the prerandomization medication trial who were then randomized to an expanded medical treatment did well and were satisfied with their treatment. Thus, medical treatment may be an acceptable option for a number of women.

In a similar study from Finland, premenopausal women with menorrhagia were randomized to hysterectomy or insertion of a levonorgestrel-releasing intrauterine device. Two hundred thirty-two women (99% of the originally randomized group) were evaluated after 5 years of follow-up. Health-related quality of life measures included the five-dimensional Euro-Qol and the SF-36, as well as other measures of psychosocial well-being and sexual function. The two groups did not differ substantially on these measures after 5 years, and satisfaction with treatment was similar in both groups. Forty-two percent of the women assigned to the intrauterine device underwent hysterectomy during the study. This study also evaluated costs and found that the discounted direct and indirect costs in the group assigned to levonorgestrel intrauterine device placement were substantially less than in the group originally assigned to hysterectomy. This was true even when considering that more than 40% of the women randomized to non-surgical treatment ultimately chose a surgical intervention.

Both of these studies provide some information for clinicians who care for premenopausal women with abnormal bleeding. Medical options, either medication- or levonorgestrel-releasing intrauterine devices, will be sufficient to control symptoms and maintain health-related quality of life for about half of the women so treated. But a significant proportion of women will not be successfully managed with a medical regimen.