

Study: Preoperative estrogen-blocking therapy may preempt need for mastectomy

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Preoperative treatment with aromatase inhibitors increases the likelihood that postmenopausal women with estrogen receptor-positive breast cancer will be able to have breast-conserving surgery rather than a mastectomy, according to the results of a national clinical trial presented today at the Society of Surgical Oncology annual meeting in Orlando, Fla.

"We found that half of the postmenopausal women in the study who initially faced having a [mastectomy](#) were able to have breast-conserving [surgery](#) after being treated for four months with an aromatase inhibitor. Preoperative therapy with aromatase inhibitors significantly increases surgical options for women with estrogen-rich cancers," says John A. Olson, Jr., M.D., Ph.D., professor and vice chairman of the Department of Surgery at the University of Maryland School of Medicine and chief of general and oncologic surgery at the University of Maryland Medical Center in Baltimore.

Dr. Olson is co-principal investigator of the Phase II trial, which was conducted by the American College of Surgeons [Oncology Group](#) (ACOSOG). He presented the results at a plenary session at the Society of Surgical Oncology's national meeting. Matthew J. C. Ellis, M.D., B.Chir., Ph.D., of Washington University in St. Louis, is the principal investigator.

Aromatase inhibitors, which stop the production of estrogen that fuels the growth of [cancer cells](#), are widely used to treat postmenopausal

women with hormone-responsive breast cancer. A University of Maryland scientist, Angela H. Brodie, Ph.D., professor of pharmacology and [experimental therapeutics](#), pioneered the development of these drugs, which also have shown promise in helping to prevent breast cancer in high-risk patients.

Breast-conserving surgery, or [lumpectomy](#), means that surgeons remove only the tumor and surrounding tissue, sparing a woman's breast. Mastectomy requires removal of the entire breast. Many women, especially those with larger tumors, are treated with chemotherapy to shrink the cancer before surgery in hope of avoiding mastectomy. There is growing evidence that hormone therapy with aromatase inhibitors may be more effective than chemotherapy in older women with hormone-responsive cancers. About 80 percent of postmenopausal women with breast cancer have tumors that express hormone receptors, such as the receptor for estrogen.

E. Albert Reece, M.D., Ph.D., M.B.A., vice president of medical affairs at the University of Maryland and dean of the University of Maryland School of Medicine, says, "This clinical trial, co-led by Dr. Olson, clearly demonstrates the benefit of neoadjuvant treatment with aromatase inhibitors for [postmenopausal women](#) with [breast cancer](#) facing often-difficult decisions about whether to have breast-conserving surgery or mastectomy. We are very pleased that Dr. Olson, who recently joined our faculty, will be continuing this important area of research at the University of Maryland School of Medicine, augmenting the extraordinary work being done here on aromatase inhibitors by Dr. Angela Brodie."

In the ACOSOG study, researchers analyzed results from 374 patients with larger, Stage II and III-grade, estrogen receptor-positive tumors. Of these, 45.7 percent were considered candidates for mastectomy, 53.2 percent for breast conservation surgery and 1.1 percent were deemed

inoperable. The women were selected at random to receive one of three [aromatase inhibitors](#) approved by the U.S. Food and Drug Administration: anastrozole, letrozole or exemestane.

After treatment for 16 weeks, 352 women had surgery. Of these, 241 women (68.5 percent) had breast-conservation surgery and 111 had a mastectomy. The group that had breast conservation therapy included 84 of 163 women (51.5 percent,) who were deemed to require mastectomy by their surgeon at the outset.

"We found it particularly interesting that about one-fourth of the patients who had a mastectomy after being treated with an aromatase inhibitor had evidence of a relatively small tumor when we examined their breast tissue in the laboratory, suggesting that a mastectomy might not have been necessary," Dr. Olson says.

He adds, "Giving aromatase inhibitor therapy preoperatively allows breast conservation surgery in a substantial proportion of patients with estrogen receptor-rich tumors who would otherwise be considered candidates for mastectomy. If we had better techniques to determine how much cancer remains after preoperative treatment and surgeons were willing to attempt breast-conservation surgery in patients with responsive tumors, perhaps we could improve the rates of successful breast-conservation therapy for these patients."

In 75 percent of the cases, the final determination on what type of surgery to have was based on the recommendation of the surgeon. The remaining 25 percent was based on the patient's preference.

Provided by University of Maryland Medical Center

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