

OHSU study suggests swelling within the eye linked to Tamoxifen use

by Bend Weekly News Sources

According to a newly published study from Oregon Health & Science University, a drug frequently prescribed to breast cancer patients appears to cause swelling in the eye. The research, which was conducted by scientists at the OHSU Neurological Sciences Institute (NSI), the OHSU Casey Eye Institute (CEI) and the OHSU Cancer Institute, is published in the current online edition of the medical journal *Breast Cancer Research and Treatment*. The work will also be published in a future printed edition of the journal. "This research shows the drug tamoxifen appears to cause physical change within the eye, at least among women older than about 50 years," explained Alvin Eisner, Ph.D., a scientist at the NSI and the CEI. "Although tamoxifen has been used for decades, new technologies for precisely assessing intraocular structure have emerged recently. The eye may provide a window for quantifying responses to tamoxifen that otherwise may not be measurable." Eisner's group had previously documented the presence of subtle visual perception changes among tamoxifen users, and a survey by other investigators found that about 13 percent of tamoxifen users report vision changes. However, the relations among these various results remain unknown. Tamoxifen is one of two types of hormonally acting medications that women often use to prevent breast cancer recurrence. While tamoxifen blocks estrogen receptors in the breast and is FDA-approved for all ages, newer types of medications, called aromatase inhibitors, interfere with estrogen production and are FDA approved for post-menopausal women only. The OHSU researchers focused on a part of the eye called the optic cup. The cup is the depression inside the eye nearest to where the optic nerve exits on its way to the brain. The researchers used an instrument called a confocal scanning laser ophthalmoscope to measure the size of the cup in three groups of study participants: women using tamoxifen, women using an aromatase inhibitor, and women without any breast cancer history and not using any hormonal medication. In testing these subjects, the researchers noted a marked difference in optic cup size, which is most plausibly due to swelling. The cup volumes of the tamoxifen users averaged less than half those of the other two subject groups, which were indistinguishable from each other. "This research adds to a body of data showing how medications can affect vision or the eye," said Eisner. "We do not want people to think that tamoxifen is not a useful medication, or that other medications are free of side effects. We do, however, want to reinforce the idea that tamoxifen may affect the visual system more than previously thought, and that such effects can be monitored if need be." The research was funded by grants from the National Institutes of Health and from Research to Prevent Blindness.

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