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Study finds no increased risk of retinal detachment with use of certain antibiotics

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In contrast to findings of a recent study, researchers in Denmark did not find an association between use of a class of antibiotics known as fluoroquinolones (such as ciprofloxacin) and an increased risk of retinal detachment, according to a study appearing in the November 27 issue of *JAMA*.

Retinal detachment (a separation of the retina from its connection at the back of the eye) is an acute eye disorder that may lead to loss of vision despite prompt surgical intervention. A recent study found that use of fluoroquinolones was strongly associated with retinal detachment, reporting a 4.5-fold significantly increased risk for ongoing exposure. A possible mechanism was effects of the drug on connective tissue, according to background information in the article. "Given the prevalent use of fluoroquinolones, this could, if confirmed in the general population, translate to many excess cases of retinal detachment that are potentially preventable."

Bjorn Pasternak, M.D., Ph.D., of the Statens Serum Institut, Copenhagen, Denmark, and colleagues used data from a nationwide register to investigate whether oral fluoroquinolone use was associated with increased risk of retinal detachment. The register had information about 748,792 episodes of fluoroquinolone use and 5,520,446 control episodes of nonuse, including data on participant characteristics, drugs used, and cases of retinal detachment with surgical treatment.

The fluoroquinolones used were ciprofloxacin (88.2 percent), ofloxacin (9.2 percent), fleroxacin (1.2 percent), moxifloxacin (0.8 percent), and others (0.7 percent).

Of 566 patients with retinal detachment, 72 were exposed to fluoroquinolones; 5 during current use (days 1-10), 7 during recent use (days 11-30), 14 during past use (days 31-60), and 46 during distant use (2-6 months). Among patients not exposed to fluoroquinolones, 494 cases occurred. Analysis of the data indicated that fluoroquinolone use compared with nonuse was not associated with increased risk of retinal detachment.

The authors write that given limited power, the study can only rule out more than a 3-fold relative increase in the risk of retinal detachment associated with current fluoroquinolone use. However, any differences in absolute risk are likely to have limited, if any, clinical significance: in terms of absolute risk, current use of fluoroquinolones would, in the worst-case scenario, account for no more than 11 additional cases of retinal detachment per 1,000,000 treatment episodes.

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Editorial: Oral Fluoroquinolone Use and Retinal Detachment - Reconciling Conflicting Findings in Observational Research

Allan S. Brett, M.D., of the University of South Carolina School of Medicine, Columbia, S.C., comments in an accompanying editorial on the findings in studies regarding an association between fluoroquinolone use and retinal detachment.

"For the physician caring for an inpatient with an indication for fluoroquinolone therapy, retinal detachment should not cross the physician's mind. But the next time an outpatient with no good indication for a quinolone asks for one 'because I got better last time I took it,' the physician might mention a remote possibility of retinal detachment among the many reasons for declining the request."

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