

Obese women may be less likely to develop glaucoma

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Obesity may be associated with higher eye pressure and a decreased risk of open-angle glaucoma in women but not men, according to a report posted online today that will appear in the May issue of *Archives of Ophthalmology*.

"Open-angle glaucoma is a chronic eye disease characterized by glaucomatous optic neuropathy and corresponding glaucomatous visual field loss," the authors write as background information in the article. Previous research has identified several risk factors for open-angle glaucoma, including [intraocular pressure](#) (pressure within the eye), age, sex, myopia (nearsightedness) and ethnicity.

Wishal D. Ramdas, M.D., M.Sc., of the Erasmus Medical Center, Rotterdam, the Netherlands, and colleagues examined data from 3,939 participants in the Rotterdam Study. This population-based study included participants 55 years of age and older living in a suburb of Rotterdam, the Netherlands, who did not have open-angle glaucoma when the study began between 1991 and 1993.

Over an average of 9.7 years of follow-up, 108 participants (2.7 percent) developed open-angle glaucoma. Those who developed the condition were significantly older, more often had high myopia (severe nearsightedness) and were more often male, compared with those who did not. No statistically significant effect of [socioeconomic status](#), smoking or [alcohol intake](#) was found on the development of open-angle glaucoma.

Among women, there was a significant association between increased [body mass index](#) and intraocular pressure. However, each one-unit increase in body mass index was associated with a 7 percent decreased risk of developing open-angle glaucoma. These associations were not present in men.

Excess fat tissue could place increasing pressure on the eye sockets, thereby increasing pressure within the eye, the authors note. The higher intraocular pressure among [obese women](#) should have resulted in an increased risk for glaucoma. "However, this effect was not observed and thus the multivariate analysis yielded a protective effect of body mass index on open-angle glaucoma incidence in women," they write.

"Another explanation might be that high estrogen levels and hormone therapy might be protective to open-angle glaucoma, and obesity seems to be positively related with postmenopausal plasma estrogen levels."

"Obesity appears to be associated with a higher intraocular pressure and a lower risk of developing open-angle glaucoma," the authors conclude. "These associations were only present in women. Other lifestyle-related factors, such as socioeconomic status, smoking and alcohol consumption, were not associated with open-angle [glaucoma](#)."

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