

Gum Disease Connected to Open-Angle Glaucoma
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FORT LAUDERDALE, Florida — Gum disease with recent tooth loss has been linked to the risk for primary open-angle glaucoma, according to findings from a survey of some 40,000 male health professionals.

"The hypothesis for this link is that local infection and inflammation at the base of the tooth could release factors that travel to the eye and trigger an inflammatory response that could lead to the development of glaucoma," said principle investigator Louis Pasquale, MD, from the Massachusetts Eye and Ear Infirmary at Harvard Medical School in Boston.



Dr Louis Pasquale

"If this is confirmed in other studies, it would suggest that maintaining oral health could reduce the risk of open-angle glaucoma," Dr Pasquale told *Medscape Medical News*.

He presented the findings during an oral presentation session here at the American Glaucoma Society 2016 Annual Meeting.

Dr Pasquale and his team prospectively followed 39,909 male participants in the Health Professionals Follow-up Study for from 1986 to 2012.

Eligible men were 40 years and older, reported being under ophthalmic care, and were free of primary open-angle glaucoma.

Every 2 years, the men provided updated information on the number of teeth they had, the number of teeth they had lost, and any history of periodontitis with bone loss.

During follow-up, 483 cases of primary open-angle glaucoma were confirmed, and were classified as having early paracentral visual field loss or peripheral loss only.

The risk for primary open-angle glaucoma was 43% higher in men who reported the loss of one or more teeth at the most recent update than in men who reported no lost teeth (95% confidence interval [CI], 1.03 - 1.99).

And the risk for primary open-angle glaucoma was an 86% higher in men who reported any tooth loss with periodontal disease (95% CI, 1.05 - 3.28).

These associations "were strongest for primary open-angle glaucoma with early paracentral visual field loss, a glaucoma subtype in which endothelial cell dysfunction is strongly implicated," Dr Pasquale reported.

Table. Multivariable Rate Ratio for Primary Open-Angle Glaucoma with Early Paracentral Visual Field Loss

Tooth Loss	Multivariable Rate Ratio	95% Confidence Interval
Any	2.46	1.38–4.39
Any plus periodontal disease	3.98	1.45–10.9

"The findings could have implications for the maintenance of dental health in primary open-angle glaucoma prevention," he said.



Dr Leon Herndon

"The study is fascinating," said Leon Herndon, MD, professor of ophthalmology at Duke University in Durham, North Carolina, who comoderated the oral session.

"It was interesting — and new to me — to see that there may be a link between periodontal disease and glaucoma," he told *Medscape Medical News*.

"Of course, there may be a lot of confounders or other reasons why this link might be there, but the study has given me some pause to go back and think about asking our patients more oral health questions to see if it may be a screening tool we could start using," Dr Herndon said.



Dr Rachel Kuchtey

"I believe it was a much-needed study," added comoderator Rachel Kuchtey, MD, PhD, from the Vanderbilt University Medical Center in Nashville, Tennessee.

"It not only tells us the association between dental health and glaucoma, more important, it gives us some clues of disease pathogenesis, which in turn may offer new treatments in the future," Dr Kuchtey told *Medscape Medical News*.

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