

00271 Association of Alcohol Intake and Frequency With the Incidence and Progression of Diabetic Retinopathy

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Aims: Background: The relationship between alcohol consumption and diabetic retinopathy (DR) is equivocal, with limited long-term data, especially from Asia. We examined the longitudinal association of baseline alcohol intake and frequency with the 6-year incidence and progression of DR in a population-based cohort of Singaporean Indians.

Methodology: Participants with diabetes, gradable retinal photographs from baseline (2007-2009) and follow-up (2013-2015) examinations, information on alcohol intake and other relevant data from the Singapore Indian Eye Study were included (N=656; mean age [SD]: 58.8 [9.2] years; 54.4% male). Alcohol consumption (yes or no) was assessed using a questionnaire. Also, infrequent and frequent alcohol consumption were defined as ≤ 2 and > 2 days of alcohol intake per week, respectively. Incident DR was defined using the Modified Airlie House classification as ‘no’ DR at baseline and at least minimal non-proliferative DR at follow-up; and DR progression as at least a one-step worsening in DR at follow-up from minimal or worse status at baseline, excluding those with vision-threatening disease.

Result: At follow-up, 82 of 510 (16%) and 45 of 146 (30.8%) participants had incident DR and progression, respectively. 65 (12.7%) and 28 (19.1%) participants consumed alcohol in incident DR and progression categories, respectively. In multivariable analyses, those who consumed alcohol had nearly two-third reduced odds of incident DR (odds ratio [95% confidence interval]: 0.34 [0.12-0.93]) compared to those with no alcohol consumption. Participants with ≤ 2 days weekly consumption of alcohol had further reduction in odds of incident DR (0.17 [0.04-0.69]), compared to those with no alcohol consumption. No association was found between alcohol consumption and DR progression.

Conclusion: Alcohol intake, particularly a low consumption, is associated with a lower risk of developing DR and supports previous cross-sectional findings. Further studies including standard definitions of alcohol consumption, nutrition, and physical activity are needed to confirm our findings and determine underpinning mechanisms.