



Be still my quivering heart: alcohol and atrial fibrillation

Clinical Question: Does advising patients to abstain from alcohol prevent atrial fibrillation recurrence?

Bottom Line: Observational studies consistently report a dose-response association between alcohol and new onset atrial fibrillation. Based on 1 randomized controlled trial (RCT) of “regular drinkers” with paroxysmal atrial fibrillation, recurrence of atrial fibrillation happened in ~50% who abstain compared to ~70% who continue drinking. Abstaining can prevent 1 atrial fibrillation-related hospital visit for every 9 people compared to those who continue to drink at 6 months.

Evidence:

- Open-label RCT in Australia, 140 patients with atrial fibrillation for ~6 years (mainly paroxysmal) and “regular” alcohol use (mean 16 per week). Mean age 62, 85% male, randomized to oral and written advice to abstain from alcohol with monthly follow-up and positive reinforcement or control (no advice on drinking). At 6 months:¹
 - Mean alcohol intake per week: 2 (intervention) versus 13 (control).
 - Complete abstinence: 61% (intervention).
 - Atrial fibrillation recurrence: 53% versus 73% (control), number needed to treat (NNT)=5.
 - Atrial fibrillation-related hospital admissions: 9% versus 20% (control), NNT=9.
 - Other benefits: 3.7kg weight loss in intervention.
 - Limitations: 70% of patients screened for study not interested in abstinence; participants had to be in normal sinus rhythm at randomization.
- Best systematic reviews of observational studies on relationship between chronic alcohol use and new onset atrial fibrillation:^{2,3}
 - Risk differs between studies due to different populations, definitions of alcohol use, adjustment for confounders and whether results separated by gender. Best estimates:
 - Compared to non or infrequent users (<2 drinks per month), the relative risk of atrial fibrillation appears to increase ~10% per drink per day.²
 - Absolute risk (per 1000 patient years) over ~4.5 years:

- 15 for low (<1 drink/week), 17 for moderate (≤2 drinks/day for women and 3 for men) and 21 for high [>2 per day (women) or 3/day (men)].⁴

Context:

- Older data suggests up to 35% of new cases of atrial fibrillation are related to acute alcohol intoxication,⁵ and may recur with subsequent binge drinking.⁶
- Guidelines recommend lifestyle interventions for atrial fibrillation, including weight loss, increasing physical activity, quitting smoking and reducing alcohol intake.⁷

Authors:

Adrienne J Lindblad BSP ACPR PharmD & Michael R Kolber MD CCFP MSc

Disclosures:

Authors do not have any conflicts of interest to declare.

References:

1. Voskoboinik A, Kalman JM, De Silva A, *et al.* *New Engl J Med.* 2020; 382:20-8.
2. Larsson SC, Drca N, Wolk A. *J Am Coll Cardiol.* 2014 Jul 22; 64(3):281-9.
3. Gallagher C, Hendriks JML, Elliott AD, *et al.* *Int J Cardiol.* 2017; 246:46-52.
4. Liang Y, Mente A, Yusuf S, *et al.* *CMAJ.* 2012 Nov 6; 184(16):E857-66.
5. Lowenstein SR, Gabow PA, Cramer J, *et al.* *Arch Intern Med.* 1983 Oct; 143(10):1882-5.
6. Krishnamoorthy S, Lip GYH, Lane DA. *Am J Med.* 2009; 122:851-6.
7. Chung MK, Eckhardt LL, Chen LY, *et al.* *Circulation.* 2020 Mar 9; CIR0000000000000748 [epub ahead of print].