Cardiovascular disease

Chocolate may lower risk of atrial fibrillation

Eating chocolate regularly may reduce the risk of atrial fibrillation (AF), the results of a large population-based prospective cohort study suggest.

The investigators evaluated the association between chocolate intake and incident clinically apparent AF using data from the Danish Diet, Cancer, and Health Study. The present study involved 55,502 participants (26,400 men) aged 50-64 years who had provided information on chocolate intake using self-administered questionnaires at baseline.

The questionnaire did not differentiate between dark and milk chocolate. Most chocolate consumed in Denmark contains a minimum of 30% cocoa solids.

Incident cases of AF were documented through linkage with nationwide registries. During a median follow-up of 13.5 years there were 3,346 cases of AF.

A serving was defined as a 1 oz chocolate bar or packet. Compared with those who ate chocolate less than once per month, the rate of AF was lower for people consuming:

- 1-3 servings/month, hazard ratio (HR) 0.90 (95% CI: 0.82-0.98)
- 1 serving/week, HR 0.83 (95% CI: 0.74-0.92)
- 2-6 servings/week, HR 0.80 (95% CI: 0.71-0.91)
- ≥ 1 serving/day, HR 0.84 (95% CI: 0.65-1.09)

P-linear trend < 0.0001

The results were similar for men and women.

Moderate consumption of cocoa and cocoa-containing foods may improve cardiovascular health because of their high content of flavanols which have vasodilatory, antioxidant and anti-inflammatory effects. Studies have shown that consumption of chocolate, particularly dark chocolate can result in lower rates of myocardial infarction, heart failure and cardiovascular mortality. If one considers that the pathophysiology of AF may involve an inflammatory cascade leading to electrical and structural remodelling of atrial tissue increasing AF risk then it is reasonable that chocolate could potentially lower the risk of AF.

The authors conclude that moderate chocolate consumption may reduce the risk of developing AF. This was a large well conducted prospective cohort study. Nevertheless, the authors acknowledge that residual confounding cannot be ruled out and that more research is required.

DR PETER SAVILL

Mostofsky E, Berg Johansen M, Tjønneland A et al. Chocolate intake and risk of clinically apparent atrial fibrillation: the Danish Diet, Cancer, and Health Study. *Heart* 2017;103:1163-67

Obstetrics and gynaecology

IUS insertion soon after termination leads to better outcomes

A study from Finland has shown that immediate, compared with delayed, insertion of a levonorgestrel-releasing intrauterine system (IUS) after medical termination of pregnancy (MTOP) resulted in better uptake and continuation rates, and a lower pregnancy rate in the following year.

A total of 267 women having MTOP, and who planned to have an IUS for future contraception, were randomised either to immediate (i.e. within 0-3 days of termination) or delayed (i.e. 2-4 weeks later) IUS placement. After dropouts and exclusions 133 women (immediate group) and 131 women (delayed group) were included in the intention to treat analysis.

IUS insertion strictly per protocol was performed in 116 of 133 and 101 of 131 women. A further 11 (immediate group) and 10 (delayed group) non-protocol insertions were performed. Therefore, actual IUS insertions were 127 and 111 respectively.

IUS expulsion occurred in six women, three from each group. Partial expulsion occurred in 36 cases; 27 from the immediate group and nine in the delayed insertion group. Partially expelled IUS were removed and replaced. A total of 25 women requested removal of the IUS (10 in the immediate and 15 in the delayed insertion group). The main reasons cited included: pain, bleeding problems, and desire for pregnancy.

After 12 months the intention to treat IUS continuation rates were 83 for immediate and 52 for delayed insertion (62.4 vs 39.7% respectively, RR 1.57 (95% CI: 1.23-2.02; P < 0.001).



The strict per protocol continuation figures were 77 in the immediate and 47 in the delayed insertion group (66.4 vs 46.5% respectively; P = 0.004).

A new pregnancy was recorded in 22 women in the intention to treat groups: six in the immediate and 16 in the delayed insertion group (4.5 vs 12.2%) respectively; RR 0.37 (95% CI: 0.15-0.91; P = 0.027).

Eleven (50%) of the pregnancies occurred in women who did not have the IUS fitted, eight (36.4%) were in women who requested IUS removal, and two (9.1%) were in women who experienced total or partial IUS expulsion. A new TOP was recorded in nine women, four in the immediate and five in the delayed insertion group (3.0 vs 3.8% respectively; RR 0.79 (95% CI: 0.22-2.87; P = 0.748).

Women having an IUS inserted immediately after MTOP were more likely to be still using it one year later, and less likely to become pregnant during that year, compared with women randomised to a delayed IUS placement.

What the study cannot say is whether the IUS is the most acceptable or reliable form of reversible contraception after TOP. However, what it does show is that fitting an IUS straightaway, or very shortly after MTOP, appears to be a more effective strategy than delaying placement for 2-4 weeks.

DR CHRIS BARCLAY

Korjamo R, Mentula M, Heikinheimo O. Immediate versus delayed initiation of the levonorgestrel-releasing intrauterine system following medical termination of pregnancy – 1 year continuation rates: a randomised controlled trial. *BJOG* 2017; https://doi.org/10.1111/1471-0528.14802

Mental health

Can exercise prevent cognitive decline?

Exercise does not appear to slow the rate of cognitive decline or reduce the risk of dementia, a UK prospective cohort study has found.

A total of 10,308 participants (6,895 men) recruited to the Whitehall II study between 1985 and 1988 were followed »

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