Dokumenttyp: journal article

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Abstract: Cigarette smoking has been shown to be one of the most important risk factors for cardiovascular diseases. However, little is known about cumulative effects of daily tar and nicotine intake on the risk of incident myocardial infarction (MI) so far. To bridge this gap, we conducted an analysis in a large prospective study from Southern Germany investigating associations of daily tar and nicotine intake with an incident MI event. The study was based on 4,099 men and 4,197 women participating in two population-based MONICA Augsburg surveys between 1984 and 1990 and followed up within the KORA framework until 2002. During a mean follow-up of 13.3 years, a number of 307 men and 80 women developed an incident MI event. Relative risks were calculated as hazard ratios (HRs) estimated by Cox proportional hazards models adjusted for cardiovascular risk factors. In the present study, male regular smokers consumed on average more cigarettes per day than female regular smokers (20 versus 15) and had a higher tar and nicotine intake per day. In men, the MI risk compared to never-smokers increased with higher tar intake: HRs were 2.24 (95% CI 1.40-3.56) for 1-129 mg/day, 2.12 (95% CI 1.37-3.29) for 130-259 mg/day and 3.01 (95% CI 2.08-4.36) for>= 260 mg/day. In women, the corresponding associations were comparable but more pronounced for...
high tar intake (HR 4.67, 95% CI 1.76-12.40). Similar associations were observed for nicotine intake. The present study based on a large population-based sample adds important evidence of cumulative effects of tar and nicotine intake on the risk of incident MI. Even low or medium tar and nicotine intake revealed substantial risk increases as compared to never-smokers. Therefore, reduction of tar and nicotine contents in cigarettes cannot be seen as a suitable public health policy in preventing myocardial infarction.