Discontinuation of smokeless tobacco after myocardial infarction linked to improved survival

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In this prospective cohort study, presented today at the ESC Congress 2011, discontinuation of smokeless tobacco after a myocardial infarction (MI) is associated with a lower risk of subsequent mortality. Investigators found that post MI snus quitters had a 44 % lower risk of total mortality.

The association seems to be independent of smoking habits, but partly explained by concomitant changes in other lifestyle variables.

Smokeless tobacco in the form of Swedish snus (oral moist snuff) has been advocated as a safer alternative to smoking. Snus takes the form of a finely ground and moistened tobacco, a bolus of which is placed under the upper lip for around an hour, with daily exposure times estimated to be around 10 to 12 hours. Different formulations exist from loose tobacco to sachets. In Sweden, 20% of adult males and 4% of adult females are estimated to be daily users. The sale of snus is illegal in the rest of the European Union, but widespread and increasing in the United States.

"While cigarettes are indeed associated with more negative health effects, smokeless tobacco can't be regarded as harmless," said Gabriel Arefalk from Uppsala University (Uppsala, Sweden), the first author of the study. "In Sweden every time we discharge an MI patient who's a snus user, we're faced with the clinically important question of whether

they should discontinue use."

Of concern, he added, has been a meta-analysis suggesting that use of smokeless tobacco results in an increased risk for fatal MIs, indicating that snus use may predispose people to arrhythmic or other serious complications of MIs.

In the current prospective cohort study, 20,911 consecutive patients aged 75 years or less who had been admitted between 2005 and 2009 to coronary care units for an MI in Sweden, were followed. Two months post discharge, information about risk factors such as past and present tobacco exposure, diabetes, hypertension, body mass index and waist circumference was recorded, as well as more specific potential confounding factors such as type of MI (STEMI/NSTEMI), participation in cardiac rehabilitation programs, level of physical activity and occupation status.

During a mean follow-up of 2.1 years, 812 of the participants died. Among the 1799 current snus users, 69 died (incidence rate 18.7 per 1000 person-years-at-risk); versus 14 among the 675 post MI snus quitters (incidence rate 9.7 per 1000 person-years-at-risk).

In a model adjusted for age, gender and present and past smoking status, the investigators found that post MI snus quitters had a 44 % lower risk of total mortality (hazard ratio 0.56; 95% confidence interval [CI] 0.31-0.99) relative to current snus users. While in a model that was further adjusted for diabetes, hypertension, systolic and diastolic blood pressures, body mass index, waist circumference, type of MI, participation in cardiac rehabilitation programs, level of physical activity and occupational status, snus quitters had a non-significant 32 % lower risk than current users (hazard ratio 0.68; 95% CI 0.38-1.21).

"The reduced risk in snus quitters seemed to be independent of smoking

habits but may be partly related to changes in other life style behaviors, such as level of physical activity and participation in cardiac rehabilitation programs," said Arefalk. "Ideally the effects of quitting snus post-MI should be studied in a randomised clinical trial", he added.

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