

Risk of acute STEMI significantly increased in younger smokers

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SMOKING IS ASSOCIATED WITH AN EIGHT-FOLD INCREASED RISK OF ACUTE ST-SEGMENT elevation myocardial infarction (STEMI) in those under 50 compared with former and never smokers, a UK study has found.¹ However, the incidence of acute STEMI in former smokers was similar to that in those who had never smoked, adding further evidence to the benefits of quitting smoking.

The authors analysed two populations. First all patients over the age of 18 undergoing percutaneous coronary intervention for STEMI at the South Yorkshire Cardiothoracic Centre between 2009 and 2012, and second South Yorkshire residents who responded to the Office for National Statistics (ONS) Integrated Household Survey between 2009 and 2012. Using both sources they were able to generate incidence rates and rate ratios (RR) to quantify the relative risk of STEMI from smoking, overall and by age group.

The study identified 1,727 patients in the STEMI group whose smoking status was known. The mean age of the patients was 63 years and 73% were male. Just under half were current smokers (48.5%) and the mean age of smokers at presentation with STEMI was 57 years compared with 69 years for former smokers and 67 years for never smokers.

Demographic data from the ONS survey showed the overall smoking prevalence in South Yorkshire to be 22%. In the survey the highest prevalence of current smoking was in the under 50s at 27%. However, in those under 50 who had suffered an acute STEMI the smoking prevalence was 75%.

Survey data showed that current smokers had a peak incidence of acute STEMI between the ages of 60 and 69 years while for former and never smokers the peak incidence was a decade later at 70-79 years.

Combining both data sources the study demonstrated that for all age groups current smokers were more than three times more likely to have an acute STEMI than former and never smokers grouped together RR 3.26 (95% CI: 2.98-3.57).

The risks of smoking were more pronounced in younger age groups. Current smokers under 50 years old were 8.47 (95% CI: 6.80-10.54) times more likely to

suffer an acute STEMI than age-matched former and never smokers. Younger populations tend to have a low prevalence of other risk factors such as hypertension, hyperlipidaemia or diabetes. Therefore, smoking appears to be a much more potent risk factor for STEMI in the young, as it is one of the very few risk factors present in this group.

Differences in STEMI rates for former and never smokers were not statistically significant in this study.

The study authors conclude that: 'These data indicate

that giving up smoking reduces the incidence of acute STEMI to that of someone who has never smoked, in all age groups.'

This paper quantifies the additional risk of acute STEMI in younger smokers compared with former and never smokers. 'Although previous studies have demonstrated a

significant increase in risk of acute MI in smokers, our analysis is the first to quantify this risk using incidence RR analysis,' the authors say.

The role of smoking in increasing heart disease risk, and therefore the need for effective smoking cessation interventions in primary care, is clear at all ages. However, this study highlights two key findings — the particularly high risks for younger smokers, and the real benefits of quitting smoking in reducing that risk to the level of those who have never smoked.

REFERENCE

1 Lloyd A, Steele L, Fotheringham J et al. Pronounced increase in risk of acute ST-segment elevation myocardial infarction in younger smokers. *Heart* 2016;0:1-6. doi:10.1136/heartjnl-2016-309595

'Giving up smoking reduces the incidence of acute STEMI to that of someone who has never smoked, in all age groups'

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