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Heart attack risk from smoking due to genetics

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Heart attacks among cigarette smokers may have less to do with tobacco than genetics. A common defect in a gene controlling cholesterol metabolism boosts smokers' risk of an early heart attack, according to a new study in *Annals of Noninvasive Electrocardiology*. The findings also show that smokers without the defect normally have heart attacks no sooner than their non-smoking peers.

Although the link between smoking and heart disease was established decades ago, the reasons for that link were unclear. More recent studies suggest smoking interferes with cholesterol metabolism, lowering smokers' levels of high-density lipoprotein, the good cholesterol that protects against heart-attack risk. An estimated 55 to 60 percent of smokers face the added risk of a defective gene that also lowers levels of the protective high-density lipoprotein. Therefore, the combination of smoking plus a defective gene substantially accentuates the risk of heart attacks in these patients..

Researcher Ilan Goldenberg, M.D., and colleagues were the first to evaluate both smoking history and the genetic trait in heart-attack patients. They found that smokers with the genetic defect had their first heart attack eight to nine years earlier than non-smokers. Smokers with a healthy version of the gene had their first heart attack only three years earlier than non-smokers, a difference the researchers considered non-significant.

"Since the frequency of this 'bad' gene in the general population is about

60 percent, many people who smoke have a high risk of experiencing a heart attack at a young age," Goldenberg said. "This finding should increase awareness for smoking cessation."

Source: Blackwell Publishing Ltd.

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