

# Smoking after a heart attack - a case report

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## Abstract

A Middle aged man suffered acute myocardial infarction while at work and angiography confirmed triple vessel disease requiring stenting followed by lifelong medication. Important to note that upon follow up his lifestyle had not significantly changed, and he continued to smoke cigarettes. Soon after he developed severe low back pain which made him bed bound for a few weeks and further medications were added however all this could not deter him from smoking. This paper aims to discuss why some patients continue to smoke after such major life events.

**Keywords:** smoking, heart attack

## Introduction

Addiction is mental or emotional dependence on a substance. It is marked by the repeated, compulsive seeking or use of a substance despite its harmful effects and unwanted consequences (1). Nicotine is the addictive chemical in tobacco. When used sparingly, nicotine produces pleasurable feelings and helps the user ignore unpleasant ones. The smoker becomes more motivated to smoke as a result. It affects mood through influencing the chemistry of the brain and central nervous system. Like other addictive substances, nicotine works by overstimulating the brain's reward pathways with the neurotransmitter dopamine. Moreover, nicotine causes a slight adrenaline rush that is not noticeable but is sufficient to quicken the heartbeat and increase blood pressure(1).

It has been established that nicotine is just as addictive as cocaine and heroin, if not more so. Nicotine dependence is a common side effect of smoking, which makes quitting even more difficult, especially when someone tries to quit on their own. In reality, 70% of smokers say they want to stop, but many put it off until they have a serious tobacco-related illness like heart disease, cancer, or a stroke(2). However, only about 6 percent of smokers are able to quit in a given year(3). Most smokers will need to make multiple attempts before they are able to quit permanently(4).

## Presentation

A 48-year-old gentleman presented with sudden onset severe chest pain and shortness of breath while at work. He had a past medical history of primary hypertension, hypercholesterolaemia and urticaria of unknown origin. ECG showed ST-segment elevation and he was transferred to coronary catheter lab where he was found to have triple vessel disease and he underwent stent insertions followed by a prolonged inpatient stay. He was discharged about three weeks later with lifelong medical treatment. Interestingly at six months follow up it was noted that his smoking habits had not altered at all. Soon after he developed severe back pain rendering him bed bound for three weeks, yet still his lifestyle did not significantly change. To date he continues to smoke and blood pressure remains uncontrolled.

## Discussion

Quitting smoking is one of the most important actions people can take to improve their health. This is true regardless of their age or how long they have been smoking(5). There are many factors that can motivate someone to quit smoking. Health concerns are the most significant of the list. Smoking is a major risk factor for many health problems, including heart disease, lung cancer, stroke, and respiratory illnesses. Concerns about these health risks can motivate someone to quit smoking. These health concerns are often fortified by family and social pressures. With or without the illness, family members and friends may encourage someone to quit smoking for their health

and well-being. Social pressure can also be a motivating factor, as smoking is becoming less socially acceptable in many places(6).

Financial reasons are a major consideration as smoking can be an expensive habit, and the cost of cigarettes can add up over time. Saving money can be a motivating factor for quitting smoking(7). Also some professions, such as healthcare, education, and the military, may have restrictions on smoking. Quitting smoking may be necessary for employment or advancement in these fields(8).

Improved physical fitness can also encourage smokers to stop as smoking can impair physical fitness and athletic performance. People who are physically active may be motivated to quit smoking to improve their endurance and overall fitness(9). Likewise women who are pregnant or planning to get pregnant may be motivated to quit smoking for the health of their baby. Parents may also quit smoking to set a good example for their children and to protect them from second hand smoke(10).

Mental health concerns are often overlooked but smoking can worsen symptoms of anxiety and depression. People with mental health concerns may be motivated to quit smoking to improve their overall mental health(6).

While these benefits are well established and patients who smoke are often reminded to quit during any consultation many patients such as the gentleman in this case struggle to stop. There are several reasons why smokers may find it difficult to quit smoking. Foremost is the nicotine addiction. Withdrawal symptoms such as cravings, anxiety, and irritability make it extremely challenging to quit. Alongside the nicotine addiction, the act of smoking a cigarette becomes a habit that is associated with certain activities, such as after a meal, during a break at work, or while socializing. These habits can also be challenging to break. A smoker may find themselves isolated from their previous social circle and may feel pressured to continue smoking to fit in with their peer group.

With the widespread media campaigns, it is difficult to imagine that someone may be unaware of the harmful effects of smoking but some people may not associate smoking with their specific condition. It is often important to make the direct link between smoking and the specific medical condition. It is also often important that reducing the number of cigarettes is not enough and that they must completely stop(11)

Smoking can be a coping mechanism for stress, anxiety, or depression. Quitting smoking can be especially challenging for people who use cigarettes as a way to manage their emotions(12). There is lower rate of smokers quitting from lower socioeconomic classes(13). This reduced rate may also be explained by lack of social support from family and friends and also lack of resources such as nicotine replacement therapy or counselling.

Finally, a factor often ignored in medical professions is the fear of weight gain. There is a cohort of smokers who are afraid that quitting smoking will cause them to gain weight, which can be a barrier to quitting (14).

## Conclusion

This case highlights the importance of incorporating physical and mental health when dealing with these complex cases. This patient was what can be described as a 'ticking time bomb' with his existing coronary vascular disease however he continued smoking which singlehandedly was the most important thing he could have stopped to prevent myocardial infarction. Worse still he continued even after such a significant life event. Thus, more exploration is needed to tailor the care to patients' individual needs for best wholesome outcome. It's important to remember that quitting smoking is a challenging process, and it may take several attempts before someone is successful. However, with the right support and resources, many people are able to quit smoking for good.

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