

Use of nicotine replacement therapy early in recovery post-acute myocardial infarction to aid smoking cessation

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Abstract

Patients admitted to hospital with a diagnosis of acute myocardial infarction (AMI) have high motivation to stop smoking. Nicotine replacement therapy (NRT) is known to be valuable in helping smokers quit although it is not commonly prescribed in patients in the acute phase following AMI.

Results from a full in-patient smoking cessation service were retrospectively analysed after the first 12 months, with particular reference to safety and efficacy in patients with AMI. Of 42 patients admitted with AMI who smoked and who were referred to the service, 32 (76%) received NRT with counselling as an in-patient, one as an out-patient and nine received counselling only. Assessment at four weeks showed 11 (26%) were still smoking, one (2%) had been lost to follow-up and 30 (71%) had successfully quit. Of these, six (20%) had not required NRT, one (3%) had received out-patient NRT and 23 (77%) had received in-patient NRT. There were no adverse outcomes in any patients.

This suggests an in-patient smoking cessation programme, including prescription of NRT in the first five days following presentation with AMI, is a safe and effective means of helping vulnerable people to give up smoking.

Key words: smoking cessation, nicotine replacement therapy, acute myocardial infarction.

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Introduction

Smoking increases the risk of cardiovascular disease at all ages, and is the most important coronary heart disease risk factor for young men and women. Cigarette smokers experience 70% greater coronary heart disease mortality than non-smokers,

increasing to 200% among heavy smokers.¹ Although the relative risk of smoking in coronary heart disease is much less than for other smoking-related diseases (e.g. lung cancer), most excess deaths among smokers will be from coronary heart disease because the overall prevalence of coronary heart disease is so great.

The risk of coronary heart disease is reduced in those who stop smoking but more quickly in those with established coronary heart disease than in asymptomatic patients. In the former group, the risk is reduced to that of those who never smoked within two to three years, whereas this takes up to 10 years in the latter group.²

Nicotine replacement therapy (NRT) has been proven to be effective in increasing smoking cessation rates.³ Patients who are hospitalised are placed in an environment where smoking is prohibited and this makes an ideal group to target for smoking cessation with good quit rates which are still improved when using NRT.⁴ Patients admitted with acute myocardial infarction (AMI) are a group who have much to gain from smoking cessation. In the acute phase such patients are susceptible to significant lifestyle changes and should be targeted for smoking cessation.

Participants, methods and results

We recently instituted a smoking cessation service, including NRT, for all in-patients including those with AMI. At 12 months we conducted an audit to assess its safety and efficacy in smoking cessation. We paid particular notice to the subgroup of patients with AMI as this was perceived as a group who would have a high risk of adverse events while receiving NRT.

At 12 months a total of 335 patients had been seen. Of these, 42 patients had an admission diagnosis of AMI. Of the 335 patients, 32 (10%) had no interest in stopping, seven (2%) could not commit to a quit date, 52 (16%) experienced loss of motivation, 32 (10%) were lost to follow-up, seven (2%) had died, 44 (13%) were ongoing in the programme, 11 (3%) had already stopped and 150 (45%) had successfully quit smoking.

Looking in more detail at the subset of 42 patients with an admission diagnosis of AMI, all of whom were initially seen on days one to three following admission and therapy started immediately, 32 (76%) had received NRT with counselling as an in-patient, one as an out-patient and nine received counselling only (patient choice). Those patients who used NRT did so for at least four weeks and most for 10 to 12 weeks. All were seen at least four times following discharge, when support is most needed,

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either as an out-patient and/or at home for 30 minutes to one hour. NRT was discussed with all the patients. They were made aware of the cautions of using NRT and that NRT is not usually used in this setting. If they chose NRT, they were asked which formulation they wished to use. Three used an inhalator, one used gum, one used lozenges, one used microtabs, five used spray and 31 used patches.

Assessment of the AMI subset at four weeks showed 11 (26%) – of whom three did not attend follow-up – were still smoking, one (2%) was lost to follow-up and 30 (71%) had successfully quit at four weeks (confirmed with carbon monoxide readings). Of these, six (20%) had not required NRT, one had received NRT as an out-patient and 23 (76%) had received NRT as an in-patient. Of those 24 patients who had used NRT as an aid to smoking cessation, 75% had successfully stopped smoking at four weeks. There were no adverse events seen in any of the patients who received NRT.

A one year assessment of the AMI group, again with carbon monoxide readings, showed that 27 (64%) had remained non-smokers, two (5%) were lost to follow-up in spite of multiple attempts to contact them, one (2%) had died and 12 (29%) continued to smoke. Overall these figures are very comparable to those at the four week follow-up.

Discussion

It is generally accepted that the benefits of NRT in aiding smoking cessation outweigh the risks,⁵ including in patients with established stable coronary artery disease,⁶ and that NRT is a useful adjunct in hospitalised patients.⁴ In spite of these well recognised facts, prescribing of NRT in hospital is not common and uptake is slow.⁷

This study shows that patients with an admission diagnosis of AMI have a much higher quit rate than those admitted with other diagnoses and that smoking cessation appears to be maintained to one year. Many patients who smoke are sufficiently motivated when admitted with AMI to stop smoking without assistance. NRT can be of considerable additional value, however, for those in whom the physical addiction is high. Dangers of NRT in this group are overstated – NRT is a safer way of



Key messages

- Patients are highly motivated to give up smoking following acute myocardial infarction (AMI)
- Early (within five days) introduction of smoking cessation counselling with NRT following AMI is effective in the short and long term
- NRT is safe when given early in recovery post-AMI

administering nicotine than continued smoking⁸ without any additional toxins and can relieve the adverse effects of increased sympathetic arousal caused by acute withdrawal symptoms.

In conclusion, an in-patient smoking cessation programme including prescription of NRT is safe and effective in smoking cessation generally, particularly in patients in the first five days following admission with AMI.

Conflict of interest

None

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