

CASE REPORT

Vasospastic myocardial infarction caused by a slimming agent—do not forget non-prescription drugs

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Abstract

A 41-year-old woman presented with central chest discomfort. She had been previously well, was an ex-smoker and reported no regular medication. The ECG developed T-wave changes inferiorly and anterolaterally and troponin I concentrations were elevated confirming non-ST elevation myocardial infarction. Cardiac catheterization showed severe spasm of the right and left anterior descending coronary arteries which resolved with intracoronary nitrates. She later volunteered that prior to presentation she had been taking non-prescription Acti-Phen a slimming agent containing phentermine. Acti-Phen had its licence withdrawn in 2001 because of cardiovascular side effects including coronary spasm. Accordingly, she was advised to avoid Acti-Phen in future. The case emphasizes the importance of obtaining a complete drug history, including non-prescription drugs, in patients presenting with acute coronary syndromes.

INTRODUCTION

It is an imperative to obtain a comprehensive drug history including non-prescription drugs, in patients presenting with acute coronary syndromes, especially when coronary spasm is diagnosed. This case reflects an important learning curve for appreciating adverse drug effects on the cardiovascular system.

CASE REPORT

A 41-year-old woman was woken at night by central chest pain described as a constricting discomfort radiating into the left arm. She had previously been well, had quit smoking 14 years ago and had no history of hypertension or dyslipidaemia. She stated she was on no regular medication. The 12-lead ECG on presentation showed left bundle branch block that resolved within the first few hours to reveal T-wave inversion in the inferior limb leads and the anterolateral chest leads (Fig. 1). Troponin I concentrations in the admission and 12 h blood

samples were raised above the upper reference limit at 1.07 and 0.87 µg/L, confirming diagnosis of non-ST elevation myocardial infarction. Cardiac catheterization 36 h after admissions showed severe narrowing of the proximal segment of the right coronary artery and of a long segment of the left anterior descending coronary artery from its middle third to the cardiac apex (Figs 2 and 3). The appearances were suggestive of coronary spasm and following intracoronary injection of isosorbide mononitrate the narrowings resolved and the coronary arteries appeared essentially normal with just minor irregularities. Cardiac magnetic resonance imaging the following day showed well preserved left ventricular function, no regional wall motion abnormality and no evidence of myocarditis.

The discharge diagnosis was non-ST elevation myocardial infarction caused by coronary spasm. She was discharged on the third day after admission on treatment with amlodipine to protect against further coronary spasm, and aspirin, clopidogrel and simvastatin for secondary prevention based on the minor irregularities on the coronary arteriogram. At outpatient review,

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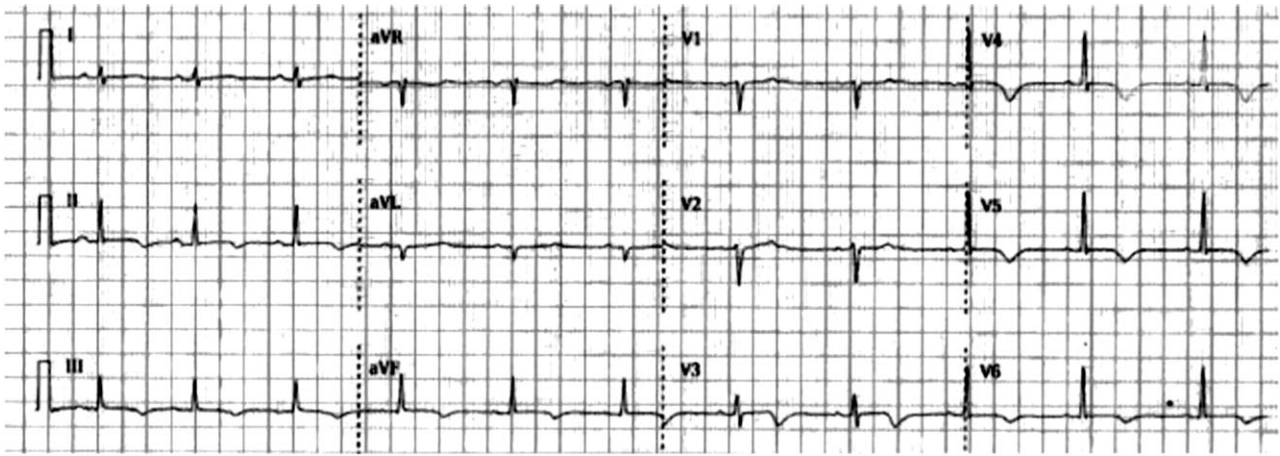


Figure 1: 12-lead ECG recorded shortly after admission showing T-wave inversion in the inferior limb leads and the anterolateral chest leads.

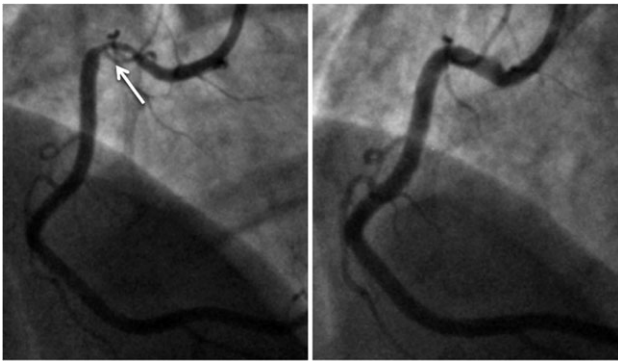


Figure 2: left anterior oblique views of the right coronary artery showing intense spasm in the proximal segment (arrowed, left frame) which resolved after intracoronary nitrate injection (right frame).

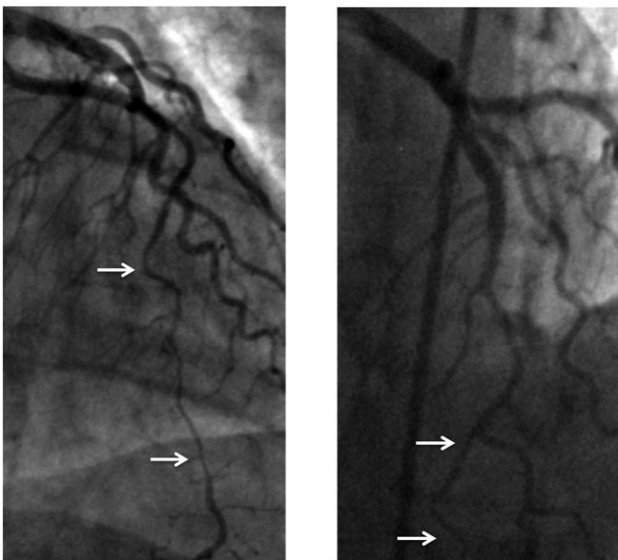


Figure 3: postero-anterior view of the left coronary system showing intense spasm over a long segment of the left anterior descending artery (arrowed, left frame) with evidence of resolution in the left anterior oblique view after intracoronary nitrate injection (arrowed, right frame).

she volunteered the information that in the week prior to her hospital admission with non-ST elevation myocardial infarction she had, for the first time, been taking Acti-Phen which she had been offered without prescription.

DISCUSSION

Acti-Phen was marketed to aid slimming and weight loss until May 2001 when it had its licence withdrawn by the Medicines and Healthcare Products Regulatory Agency (MHRA) on account of its cardiovascular side effects. The active component, phen-termine, is an amphetamine derivative that increases nor-adrenaline release within the hypothalamus suppressing appetite [1]. However, it may also cause coronary spasm and has been linked to arrhythmias, cardiac arrest and myocardial infarction in previous reports [2–4]. Having identified Acti-Phen-induced coronary spasm as the likely cause of the non-ST elevation myocardial infarction with which she originally presented, she was advised to avoid the drug in future. At final review she was well, and leading a normal life free of cardiac symptoms.

The case emphasizes the importance of obtaining a complete drug history, including non-prescription drugs, in patients presenting with acute coronary syndromes, particularly when coronary spasm is diagnosed. This case is a reminder that aetiological factors beyond atherosclerosis need consideration in all patients with acute coronary syndromes, especially those with no reversible risk factors and no relevant past medical history.

CONFLICT OF INTERESTS STATEMENT

None declared.

FUNDING

There was no funding involved.

ETHICAL APPROVAL

None (patient consent to report the case attached).

GUARANTOR

Professor Adam Timmis (fourth author) is guarantor for this case report write-up.

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