Prinzmetal's angina refractory to medical treatment

Rudolf Martin Duehmke\textsuperscript{a}, Sadia Khan\textsuperscript{a}, Jeremy Woodward\textsuperscript{b} and Leonard Shapiro\textsuperscript{a}

\textsuperscript{a}Papworth Hospital, Cardiology Department, Papworth Everard, Cambridge, UK; \textsuperscript{b}Addenbrooke’s Hospital, Gastroenterology Department, Cambridge, UK

Corresponding address: R.M. Duehmke, Department of Cardiology, Papworth Hospital, Papworth Everard, Cambridge, CB3 9RE, UK. E-mail: duhmke@hotmail.com

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Abstract

We describe a case of Prinzmetal’s angina that is refractory to medical therapy but responded fully after percutaneous coronary intervention. This case shows that there is a role for percutaneous coronary intervention in refractory variant angina as long as a culprit lesion within the vasospastic segment can be identified.

Keywords

Prinzmetal’s angina; variant angina; percutaneous coronary intervention.

Case

A 54-year-old male smoker was referred to the cardiology clinic with a 1-year history of daily episodes of central chest pain. These could occur during exercise and at rest and sometimes woke the patient from sleep. They lasted for up to 1 min but occurred more than ten times a day. His resting electrocardiogram and exercise tolerance test were normal. A 24-h Holter monitor (Fig. 1) showed multiple episodes of transient ST elevation frequently followed by short run non-sustained ventricular tachycardia. The patient’s symptoms were consistently coincident with the episodes of ST elevation on the Holter recording. A diagnosis of Prinzmetal’s angina was made and the patient was advised to stop smoking and treated medically with calcium channel blockers and nitrates. The patient could only tolerate low doses of vasodilator treatment due to side effects and his symptoms remained limiting.

Coronary angiography was performed to identify the vasospastic segment. It demonstrated non-flow-limiting, right coronary artery disease only (Fig. 2). It was felt that the diseased segment in the right coronary artery was also most likely to be the vasospastic segment. A 32 mm × 4 mm Taxus stent was therefore deployed in the right coronary artery. This achieved a good radiographic result. Since the stent insertion, the patient remains asymptomatic to this day and a repeat 24-h tape was entirely unremarkable.

Teaching points

Prinzmetal’s or variant angina occurs suddenly, at rest and is associated with dynamic ST elevation during the time of discomfort. Its diagnosis hinges on a Holter monitor, which records

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Fig. 1. Twenty-four hour Holter monitor recording during an episode of chest pain showing transient ST elevation and a run of non-sustained ventricular tachycardia.

Fig. 2. Left anterior oblique view, demonstrating two sequential non-flow limiting right coronary artery lesions.
ST elevations that consistently coincide with symptoms. Our case illustrates that patients who present with non-exercise induced chest pain of cardiac nature, yet have negative exercise tolerance tests or angiograms should be referred for a 24-h ECG recording, otherwise this rare, but treatable form of angina may be missed.

First line treatment for variant angina is vasodilatation with calcium-channel blockers and nitrates. But as this case illustrates, percutaneous intervention has a role in medically refractory cases as long as the vasospastic segment can be identified[1]. The literature suggests that nearly 90% of vasospastic segments are localised to the site of an organic lesion[2]. We were therefore able to identify the likely vasospastic segment to the site of the sole angiographic lesion, without the need for provocation tests. The use of such tests in general is currently controversial due in part to reported fatalities[3] and low specificity. There may, however, be a place for provocation tests, if it is not possible to identify the vasospastic segment in medically refractory cases.

References