Palpitations and syncope in primary care

Palpitations present commonly in general practice. Here, two cases are described in which 24-hour electrocardiogram monitoring enabled the GP to make the diagnosis of significant sinus node disease.

Abstract

Palpitations are a common complaint. It is useful for the GP to determine which are benign and which are potentially life-threatening and require urgent referral.

Two cases are presented here in which the GP used 24-hour electrocardiogram (ECG) monitoring to detect a prolonged daytime sinus pause. Both patients were referred, as a consequence, for permanent pacemaker insertion.

A 24-hour ambulatory ECG monitoring machine allows the GP to reassure patients whose palpitations have a benign origin, to reduce inappropriate referrals to secondary care, and to produce a more informative referral letter.

Key words: palpitations, 24-hour ECG monitor, pacemaker, referral.

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Introduction

The symptoms of palpitations and dizziness are common complaints, and account for a large number of clinic visits in both primary and secondary care. A large number of these complaints are likely to be benign. However, in some patients these cardiac rhythm disturbances may lead to life-threatening complications and could be fatal unless promptly identified and treated.[1]

We report two patients in whom the diagnosis was established by the general practitioner using 24-hour ambulatory ECG monitoring. Further investigation and treatment were undertaken in secondary care.

Case 1

A previously fit 35-year-old woman presented to her general practitioner with symptoms of lassitude and exercise-induced palpitations. There was no relevant past medical history or family history of cardiovascular disease. She was taking no regular medications.

On examination, her pulse was 72 beats per minute and regular. The supine blood pressure was 142/58 mmHg and cardiovascular examination appeared normal.

The resting 12-lead ECG demonstrated sinus rhythm, with normal PR interval and no pre-excitation. A 24-hour ECG performed by her general practitioner confirmed sinus rhythm throughout, with occasional atrial and ventricular ectopy. There was, however, a prolonged daytime sinus pause of 4.2 seconds. Transthoracic echocardiography revealed normal cardiac structure and function.

> ***'Ambulatory 24-hour ECG monitoring is the method of choice to document and quantitate the frequency and complexity of arrhythmias'***

The patient had a dual chamber permanent pacemaker implanted, resulting in complete resolution of her symptoms.

Case 2

A 61-year-old man presented to his general practitioner complaining of fast regular palpitations. There was no significant past medical history, and he had no risk factors for or family history of premature cardiac disease. He was taking no regular medications.

On examination, his pulse was regular at 68 beats per minute. Supine blood pressure was 194/102 mmHg. The rest of the cardiovascular examination was within normal limits.

Resting 12-lead ECG demonstrated partial right bundle branch block and borderline first degree heart block. A 24-hour ECG performed by his general practitioner demonstrated a prolonged daytime sinus pause of five seconds, with no other rhythm disturbance. A repeat 24-hour Holter tape showed sinus rhythm with episodes of non-sustained atrial tachycardia.

The patient was referred for further electrophysiological evaluation prior to permanent pacemaker implantation.

Discussion

The resting 12-lead ECG is the main investigative tool for assessing patients with cardiac complaints in general practice. Other non-invasive cardiac investigations to evaluate patients with rhythm disturbances have, until recently, been carried out in the cardiology departments of district or teaching hospitals. Ambulatory 24-hour ECG monitoring is the method of choice to document and quantitate the frequency and complexity of arrhythmias. Both of our patients had significant sinus node disease, and these cases highlight the variability and diversity of symptoms with which all forms of dysrhythmia may present, be they benign or malignant.

Our report also demonstrates that the accessibility of 24-hour tapes in general practice enables the general practitioner to diagnose patients with rhythm disturbances. It identifies those patients with sustained tachycardias or sinoatrial/atrioventricular node disease in need of urgent evaluation and treatment, avoiding unnecessary delays in reaching a diagnosis. Furthermore, in

Key messages

- Palpitations are common symptoms
- Many are benign but some indicate severe disease
- Use of a 24-hour ECG in general practice leads to reassurance of the former group of patients and to appropriate informed referral of the latter group

our experience, the accessibility by general practitioners of 24-hour ambulatory ECG monitoring leads to reassurance of a large number of patients who have benign atrial or ventricular ectopic activity and substantially reduces the number of requests for cardiology review. Indeed, in a recent study involving 250 patients in primary care with suspected cardiac arrhythmia, Standing *et al.* reported a reduction of hospital referrals by 60%, from 49 to 19 patients.[2] They also reported a doubling of the detection of cases requiring urgent evaluation and treatment among these patients, from three to seven.

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For a busy general practitioner, any diagnostic equipment should be easy to fit in, operate and interpret. As general practitioners do not read many ECGs every week, it is important for their limited experience to be augmented by software interpretation.

The C.Net2000+ monitor used in these cases is unique in being able to analyse the ECG of a patient in real time, using its patented neural network technology. The ECG is analysed and classified within the monitor while the patient is wearing it and at the end of 24-hours the monitor downloads the analysis, in the form of a report with supporting ECG traces, directly to a printer or computer. It can be fitted instantly, in the general practitioner's surgery, on any patient who presents symptoms of arrhythmia. Twenty-four hours later it gives a full report without having to send the patient or any equipment or data to the hospital for further analysis. The device produces a page summarising and classifying the arrhythmia detected and then refers to further pages in the report to view example traces such as ST segment depression.

By being able to have a report in the surgery, only 24 hours after the patient first presents with symptoms, the general practitioner is able to make an informed decision as to the next step with the patient, whether it be sending him for urgent tests or treatment, or reassurance. On some occasions, the general practitioner author has used the device for half an hour while the patient is waiting in the surgery.

We therefore conclude that the availability of 24-hour ambulatory ECG monitoring in primary care provides a screening process for patients with suspected cardiac rhythm disturbances that is able to identify life-threatening arrhythmias. At the same time, it has the potential to reduce substantially the rate of referrals to already overstretched cardiac units, thereby reducing waiting list times and facilitating better use of resources. It allows the general practitioner to make a more informed decision and the referral letter contains information that enables the hospital consultant to judge more accurately the urgency for an outpatient appointment. Finally, it makes primary care a more interesting place to work.

Conflict of interest

None declared.

Editors' note

Further information on the C.Net2000+ monitor can be obtained from Cardionetics Limited on tel: 01252 761040; email: enq@cardionetics.com; website: www.cardionetics.com.

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Amit KJ Mandal
Cardiology Research Registrar
Constantinos G Missouris
Consultant Cardiologist
Wexham Park Hospital, Wexham, Slough, Berkshire, SL2 4HL.

George G Kassianos
General Practitioner
Birch Hill Medical Centre, Leppington, Bracknell, Berkshire, RG12 7WW.

Correspondence to: Dr GC Kassianos, 61 Plough Lane, Wokingham, RG40 1RQ
(email: gckassianos@btinternet.com)