Fax stretch

ANDREW RJ MITCHELL, ALISTAIR KB SLADE

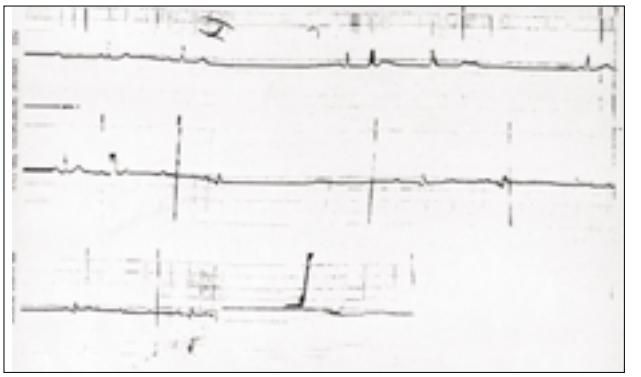
Introduction

Fax machines are essential tools in modern medicine. With increasing pressure to reduce 'door to needle' times in acute myocardial infarction, appropriate interpretation of electrocardiograms (ECGs) by cardiologists is desirable and the use of fax machines to transmit recordings is advised.[1-4] Fax technology is not infallible, however.

We received a call from a regional psychiatric unit requesting an opinion on a patient's ECG before they would deliver electroconvulsive therapy. The patient had been transferred to the psychiatric unit after recovering from a significant overdose of beta blockers and had required temporary pacing. Due to our geographical distance we asked for the ECG to be faxed to our cardiac department for interpretation.

The ECG appeared to show periods of sinus rhythm with long episodes of sinus arrest (figure 1). The electroconvulsive therapy was postponed and the patient was transferred for implantation of a permanent pacemaker. When we examined the original ECG traces accompanying the patient, we found only sinus rhythm at 80 beats per minute. Closer inspection of the fax then revealed the answer: the fax machine had malfunctioned and printed parts of the ECG at more than triple speed, stretching out the ECG to give the impression of sinus pauses. The poor quality of the recording made the 1-second ECG markers faint and difficult to identify. The patient was reassured that all was well and returned to continue his treatment.

Figure 1. The patient's ECG which appears to show periods of sinus rhythm with long episodes of sinus rest



The fax machine has become a valuable instrument for the primary care physician and modern cardiologist, permitting expert interpretation and advice within minutes of making a recording. 'Fax stretch' is the 21st century's version of 'tape stretch', a similar problem affecting ambulatory 24-hour ECG recorders. Transmitted ECGs should be carefully inspected to ensure that the paper speed is constant.

Department of Cardiology, Royal Cornwall Hospital, Truro, TR1 3LJ.
Andrew RJ Mitchell, Specialist Registrar in Cardiology
Alistair KB Slade, Consultant Cardiologist

Correspondence to: Dr ARJ Mitchell
Cardiology Department, John Radcliffe Hospital, Oxford, OX3 9DV.
(email: mail@andymitchell.com)

References

1. Srikanthan VS, Pell ACH, Prasad N *et al*. Use of fax facility improves decision making regarding thrombolysis in acute myocardial infarction. *Heart* 1997;**78**:198-200.
2. Chamberlain D. Fax machines for thrombolysis? *Heart* 1997;**78**:108.
3. Hooghhoudt THE, Drenth JPH, Lamfers EJP. Fool proof fax facilities: a valuable tool in thrombolysis decision making (letter). *Heart* 1998;**79**:314.
4. Cheng TO. Fax machines for thrombolysis (letter). *Heart* 1998;**80**:210.