Echocardiography in the community: mind the gap

In the first of two commentaries on echocardiography in the community, general practitioner Gerald Partridge writes about his personal experiences with providing such a service in Keighley, West Yorkshire.

Introduction

This article discusses experiences of setting up a community echocardiography service for a primary care trust (Airedale PCT: an area most famous for its moors, Ilkley and Haworth, with an old textile/engineering town – Keighley – at its centre). It comments on the problems and solutions and also the standards which are proposed for accreditation.

I define a "point of care" echo as one carried out, unplanned, in a consultation to add to the clinical information gathered in the usual way. My own practice is a combination of these and standard studies.

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My own background is 21 years in general practice, with 10 years as a clinical assistant in cardiology (pacing and then exercise electrocardiograms [ECGs]), which came to an end because of pressure from our practice for me to be present at the new open access morning surgery (the perennial problem of backfilling).

I became the PCT lead in coronary heart disease (CHD) but was able to refocus on echocardiography and heart failure. I am an enthusiast for primary care cardiology, having used an ambulatory ECG recorder in the practice for many years. The PCT supported my desire to train in echocardiography: I had brief experience of it in hospital work. Money from the old Health Authority bought a Sonosite portable machine (and the Glasgow – Stobhill echocardiography course) and from October 2001 to October 2002, I used

'The gap between GP enthusiasm and cardiology departments' ability to teach and mentor must be closed'

Gerald Partridge

that for point of care patients in our practice of 10,000. From October 2002 to the present I have used an ESOATE Cariss Plus cart-based machine (there is a portable version). This machine has the full range of modalities including pulse wave (PW), continuous wave (CW) and colour Doppler and cardiac measurement software. This was paid for by a one-off capital allocation for equipment. For one afternoon per week I carry out three or four practice-based echos. The Sonosite (upgraded to Sonoheart Elite, which includes CW Doppler) is used for occasional domiciliary echos.

Mentoring and training are a problem. There are two hospital trusts within a 20-minute drive from Keighley. One was not able to offer any training or support. The other offered four months of weekly evening sessions for ward patients, with an experienced clinical physiologist teaching. This allowed good 'hands on' experience. These sessions were invaluable, but sadly came to an end when the physiologist moved on and no further help was offered.

Addressing the gap

There is a complete post-code lottery on general practitioner with special interest (GPSI) echocardiography training: colleagues from around the UK have told me of robust relationships with secondary providers – one GP does one hospital session as well as two PCT ones, while another does these plus transoesophageal sessions in the hospital. In other areas there are lukewarm or hostile reactions to the whole idea of echocardiography moving beyond the confines of hospital boundaries. This leads to great frustration as high quality machines are now affordable and some GPs are angry at the perceived intransigence of the 'establishment', and at the 'gap' between enthusiastic GPs and hospital trusts which are not interested.

There is no shortage of patients for echocardiography to be found in our practice of 10,000. The spread of symptom presentation/disease to be monitored in 51 consecutive echos carried out on the Cariss Plus is listed in figure 1.

Clips and stills are stored on the machine's hard drive; a Read code is entered in the GP computer record and a brief report and opinion are added. I

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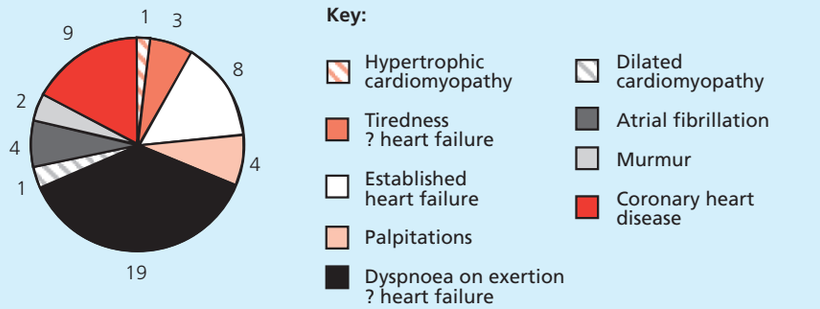
Figure 1. Details of the 51 patients who had echocardiograms performed



carry out one clinic per week, which is shortly to be opened to the whole PCT, with PCT approval of my GPSI status. I carry out one session of two hours per week, most weeks, one evening with an experienced echocardiographer who works for a different hospital trust and is paid 'on call' rates by the PCT. We discuss images that caused any uncertainty. The moving image clips from the Cariss Plus can be written to a magneto-optical disc which I can then read on my desktop PC; I compress the file (to less than 1MB), attach it to an e-mail and can then send it to my mentor for comment, if a meeting is not possible. Remote mentoring is thus entirely possible and if availability of this in the UK is limited, there may be someone else in Europe, or beyond, who can oblige for a fee.

There is another gap between the case mix of open access echo[1] and current British Society of Echocardiography (BSE) accreditation case mix requirements: few GPs will be familiar with aortic root abscesses or carcinoid. Inclusion of study of left ventricular disease versus hypertrophic cardiomyopathy versus athlete's heart will be useful. Community-based accreditation by the BSE is being worked on at present, and is due for rollout with the first examination in autumn 2004. At least three UK universities run MSc/PGDip courses in medical ultrasound with a substantive echo module. The BSE state that cardiac ultrasound should only be performed by someone with adequate training and background.

My own way of getting experience essentially involves two different types of echo study. The first is the point of care study done by cardiologists in (mostly US) hospitals.[1] Such patients, in my experience, are picked up during a booked 10-minute appointment in an afternoon. The second is the echo clinic, with patients referred by partners and booked at 45-minute intervals (see figure 1).

Experienced GP/echocardiographers have expressed concerns (in personal e-mail correspondence) about very short examinations. Clearly different models of 'quick look'/POC echo benefit from testing against full studies. There are three main variables: device, length of training and length of study. Lemola *et al*.[3] compared a quick study (six minutes) using a portable device and a physician/operator with limited training with a study using a conventional device and fully trained sonographer: qualitative agreement was good. Goodkin *et al*. found the use of the hand carried device (compared to a standard echocardiograph) missed a clinically important finding in 19% of a series of critically ill patients.[4]

Conclusion

Portable and affordable cardiac ultrasound machines are on the market. A number of GPs are using them to help manage the rising tide of heart failure and atrial fibrillation in the community. A medium to large general practice furnishes plenty of 'teaching material'. (We use the echo in our practice for teaching final year medical students). The 'gap' which is the gulf between GP enthusiasm and the ability of cardiology departments to teach and mentor must be closed if we are to achieve adequate care of the million people in the UK with heart failure. Team working and seamless care will be part of this new order. I look forward to it . . .

Conflict of interest

None declared.

Editors' note

This is one of three articles on community echocardiography in this issue. See also pages 399–402 and 405–07.

References

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Footnote: The Airedale PCT clinic is now open for business.

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