A brief report on the data available on rapid access cardiology clinics

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Introduction

Rapid Access Cardiology Clinics were introduced many years ago for the assessment of chest pain. Following the publication of the National Service Framework (NSF) for Coronary Heart Disease (CHD)[1] the number of rapid access chest pain clinics (RACPCs) has expanded dramatically. Standard 8 of the NSF for CHD describes the use of chest pain clinics to provide specialist advice to people with symptoms of angina or suspected angina. One of the goals of the NSF was that there should be at least 100 RACPCs in the UK by April 2002. This goal has been superseded.

More recently, rapid access clinics have also been introduced for the assessment of suspected cases of heart failure and cardiac arrhythmias.

While the concept is that a prompt 'one-stop' assessment provides care that is clinically superior to traditional services in a cost-effective manner, there are few data describing outcomes of the patients seen in these services. In this report, we review the available evidence on rapid cardiology services.

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Search strategy

A Medline search was undertaken using the key words 'rapid access cardiology', 'rapid access chest pain clinics', 'palpitations' and 'heart failure'.

The search identified nine papers relating to chest pain clinics[2-10] and four other papers relating to other rapid access cardiology services, three for heart failure[11-13] and one for arrhythmia (tables 1 and 2).[14]

Discussion

The criteria for rapid assessment are as follows:

- The disease is common
- It causes significant morbidity and mortality
- Morbidity and mortality may occur in the short term
- Treatment can reduce morbidity and mortality
- The process of assessment and treatment is cost-effective.

Cardiac chest pain, breathlessness and palpitations are common, potentially sinister and distressing for the patient. Cardiac disease has a high mortality and morbidity if left untreated though treatments exist to alter the natural history of the disease.[15] The objectives of rapid cardiology clinics are to provide a mechanism to facilitate prompt initiation of treatment of high-risk patients, to reduce unnecessary hospitalisation and to reduce overall mortality and morbidity.

These principles, established for chest pain, have been extrapolated to the management of heart failure and arrhythmias.

The limited published data provide some evidence to suggest that rapid cardiology services fulfil the above objectives.

As Dougan *et al.* note,[16] prior to the establishment of rapid cardiology clinics, the norm was an 8–18 week wait for a specialist cardiology opinion in a traditional outpatient clinic, for a non-acute presentation of arrhythmia, angina or heart failure. This centre found that had the RACPC not been in existence, three times more patients would have been admitted unnecessarily. This is corroborated by Jain *et al.*[6] and Newby *et al.*[8]

The shorter time from referral to attendance at a rapid access clinic is an important factor, not only in terms of disease progression but also in terms of minimising patients' anxiety.

The financial 'burden' of running a RACPC has not been reported on a large scale. There is a possibility of increased flow of patients into the traditional cardiology clinic (at least initially) by virtue of Rapid Cardiology Clinic follow-up. One could expect this 'burden' to be lessened once a clinic got into its stride but no data exist to look at this.

The effects on allied cardiology services (echocardiography, exercise tolerance testing, electrocardiography) also require evaluation, in terms of additional manpower and financial burden.

Overall, rapid cardiology clinics may create additional pressures by: maintaining in secondary care patients who are normally managed in primary care: identifying disease that previously was undiagnosed; and temporarily increasing referrals to secondary care when the service starts. Further pressures in non-cardiology services also need evaluation to assess the impact on them.

There is much room for further research into rapid cardiology services. Key areas for further work include the effectiveness

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Table 1. Data for rapid access chest pain clinics

Centre	No. seen/weekday	Proportion ETT	Outcome	Resource saving	Long-term follow-up
Royal Infirmary Edinburgh (1976)[2]	0.85	Not known	*New or worsening angina 41% NCS 50%	Not known	**6 months** 4.9% MI, but survived 1.4% died 2.2% frequent angina 1.07% no angina (No angiography data – limited angiography available)
Harefield Hospital, London (1992)[3]	0.7	Not known	MI 2.5% Angina 58.5% (half of these unstable)	Not known	**(Not specified)** 51.2% angiography 15.6% angioplasty 12.4% CABG
Royal Victoria Hospital Belfast, N. Ireland (1994)[4]	1.6	Not known	ACS 7% SCD 17% Possible SCD 20% NCS 56%	£58/patient	**3 months** 6.9% angiography 3.8% PCI 1.7% CABG
Royal South Hants Hospital, Southampton UK (1995)[5]	1.1	22%	SCD 24%	Not known	**7–30 months (median 16)** 11% death or MI 19% revascularisation 7.5% CABG
Newham General Hospital, London (1997)[6]	0.8	46%	Cardiac chest pain 28% NCS 72%	Not known	**2 years** 87% event-free survival (all patients) 66% event-free survival (cardiac patients) 99% event-free survival (non-cardiac patients) (death/recurrent ischaemia/revascularisation)
Llandough Hospital, S. Glamorgan, Wales (1997)[7]	1.5	7.5%	ACS 19.5% SCD 30% NCS 50.5%	Not known	**1 year** 1.7% angiography 1.1% CABG 0.5% cardiac death 0% non-cardiac death
Royal Infirmary, Edinburgh (1998)[8]	2.3	61%	MI 13% UA 12% SCD 27% NCS 26% Not specified 8%	Not known	**Not specified** 14% hospitalised 26% outpatient review 10% angiography 50% discharged
Western General Hospital, Edinburgh (1998)[9]	1.9	Not known	MI 3% UA 15% SCD 32% NCS 49%	Not known	**8.5 months** 11% angiography 2.1% angioplasty 4.6% CABG 0.3% deaths
Western Infirmary/ Southern General Hospital, Glasgow (2001)[10]	3.9	Not known	ACS 7% SCD 42% NCS 51%	Not known	**8 months** 20.2% angiography 3.3% PTCA 3.1% CABG

Unless otherwise stated, percentages given are of total number of patients originally seen
* Patients who did not fulfil the criteria for new or worsening angina were excluded

Key: MI = myocardial infarction; UA = unstable angina; ACS = acute coronary syndrome; SCD = stable coronary disease; NCS = non-cardiac symptoms; PTCA = percutaneous coronary angioplasty; PCI = percutaneous coronary intervention; CABG = coronary artery bypass graft; ETT = exercise tolerance test

of nurse-led clinics, which are already a familiar concept in cardiology.

Detailed evaluation of the views of those working in primary care are also warranted. Controlled studies on rapid access cardiology clinics would be desirable. Randomised studies are unlikely ever to be available, however, since rapid cardiology clinics, in particular RACPCs, are now a standard feature of most cardiology departments.[15]

In summary, the data for rapid cardiology clinics are limited. The data available support the concept that these services are

Table 2. Data for rapid access heart failure clinics and rapid access arrhythmia clinics

Rapid access heart failure clinics

Centre	No. seen/weekday	Proportion echo	Outcome	Resource saving	Long-term follow-up
Bromley Hospital, London (2000)[11]	1.3	100%	26% heart failure 74% not heart failure	Not known	Not specified
Hillingdon Hospital, London (2000)[12]	0.1	91%	25% heart failure		**6–26 months** Not specified for those patients identified by the clinic alone
Frederiksberg University Hospital, Copenhagen, Denmark (2002)[13]	1.1	100%	70% clinical heart failure 62% echocardiographic diagnosis of heart failure	Not known	**1 year** 23% decline in heart-failure related hospital admissions

Rapid access arrhythmia clinics

Centre	No. seen/weekday	Proportion Holter	Outcome	Resource saving	Long-term follow-up
Charing Cross Hospital, London (2002)[14]	1.5	100%	NSA 56.3% AF/flutter 26.6% AVNRT 4.9% Bradycardia/heart block 3.4% PAT 3.1% WPW 0.9% NSVT 0.9% Other 3.1% Diagnosis pending 1.7%	Not known	None

Of the 220 new cases of heart failure identified, 40 came from 157 referrals to the rapid access heart failure clinic. The remaining 180 were identified from surveillance of hospital admissions to the hospital. The figure quoted refers to the cases of heart failure as a proportion of referrals to the clinic

Key: AF = atrial fibrillation; AVNRT = atrio-ventricular nodal re-entrant tachycardia; NSA = non-significant arrhythmia; WPW = Wolff-Parkinson-White syndrome; PAT = paroxysmal atrial tachycardia; NSVT = non-sustained ventricular tachycardia

feasible not just for chest pain but also for breathlessness and palpitations. Reports support, but do not prove, the contention that these services provide accurate diagnosis, risk stratification and prompt initiation of evidence-based therapies, as well as achieving high approval ratings from stakeholders.

A large study of patients seen in rapid cardiology clinics is needed to answer the multitude of questions concerning the running of such services across the UK.

Conflict of interest

None declared.

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