

Prophylaxis of bacterial endocarditis: a general practice audit

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SUMMARY. A method of identifying patients at risk from bacterial endocarditis is described. All at-risk patients in one practice were identified, contacted and counselled. Two-thirds of these at-risk patients had no contact with the appropriate hospital outpatient department. It is suggested that the general practitioner has the primary role in the prevention of this disease.

Introduction

THE mortality rate from bacterial endocarditis continues to be high — it is widely quoted as 30%.¹ In 1986 the Office of Population Censuses and Surveys reported 208 deaths from this disease.² The reported incidence is thought to have remained largely unchanged since early this century¹ and although the mortality rate for this once uniformly fatal disease has fallen dramatically over this period the number of deaths each year has remained almost unchanged since 1978. Since the presentation and subsequent course of infective endocarditis may be atypical, there are undoubtedly a substantial number of cases that go unrecognized.

The unchanging incidence of bacterial endocarditis despite the fall in the incidence of rheumatic heart disease, and its valvular complications, can be partly explained by the emergence of new high-risk groups such as intravenous drug users and those with prosthetic heart valves and possibly pacemakers. Although endocarditis can affect apparently healthy heart valves, in the majority of cases the valves are known to be abnormal before infection occurs.³

It is difficult to establish the route of entry of infection in all cases with certainty, but the majority of the organisms implicated are found in the mouth and pharynx, often as commensals.³ Despite this, those at risk often fail to have regular dental checks and to comply with recommended regimens.^{4,5} Pitcher and colleagues have recommended regular dental inspections, written advice for the patient to follow and regular reinforcement of this advice.⁴ A working party of the British Society for Antimicrobial Chemotherapy has recommended chemotherapy for dental prophylaxis.⁶ This applies to dental procedures where mechanical interference with the teeth is proposed, including extractions, fillings and scaling.

The groups with a high risk of developing bacterial endocarditis are: patients with a prosthetic valve, patients who have previously had bacterial endocarditis and drug addicts. Those with a medium risk are: most patients with congenital heart disease and patients with acquired heart valve disease. Patients with a secundum atrial septal defect or mitral valve prolapse in the absence of regurgitation have a low risk of developing the disease, while the risk for patients with pacemakers or cardiomyopathy (hypertrophic) is arguable.

The study described here aimed: (1) to establish the number of patients in one practice believed to be at risk from endocar-

ditis; (2) to determine whether or not these patients were attending a hospital outpatient department; (3) to determine whether they had their own teeth; and (4) to provide them with a reminder card.

Method

The study was carried out between January and June 1987 in a Dorset training practice with two principals and a list size of approximately 3800. The practice disease register, held on computer, was used to try to identify the patients at risk from bacterial endocarditis. The Abies computer system used in the practice holds detailed patient records and a summary sheet is kept in the front of the A4 format notes. A disease register will inevitably have omissions, mainly in two categories — those patients who have a disease and are unknown to the doctor, and those who have a disease and are known to the doctor but for some reason are not recorded in the register. In an effort to include as many patients as possible from this latter category a computer search was made and notes checked for the following patients: those recorded as requiring penicillin cover, those with congenital and valvular heart disease, arrhythmias and pacemakers,⁷ and those receiving digoxin. Patients with a heart murmur owing to aortic sclerosis were not included since there is no clear evidence that they are an at-risk group.⁸ As a result of increased awareness of the risks of cardiovascular lesions, the principals and practice nurse identified further at-risk patients when they attended the surgery.

The notes of all of the patients identified by the computer were flagged so that when they attended the surgery they could be identified by the doctor and counselled on the risks they face. Patients aged 70 years or under who did not attend within two months were sent a personalized letter asking them to make an appointment. The two patients aged over 70 years who did not attend were visited at home. Only one patient failed to respond to the letter; he was telephoned and then attended the surgery.

Results

A total of 22 patients at risk from endocarditis were identified using the disease register and computer search. A further five patients were identified by the principals and practice nurse during the study. The indications for inclusion were as follows: mitral regurgitation (eight patients), aortic (non-sclerotic) valve disease (six), pacemaker (four), ventricular septal defect (two), 'mixed' non-specified valve disease (two), valve replacement (one), previous endocarditis (one), 'mixed' pulmonary valve disease (one), patent ductus arteriosus (repaired) (one) and endarterectomy (one).

At the start of the study only six patients were recorded as requiring antibiotic prophylaxis but each computer search of each disease heading produced at least one more.

Only nine of the 27 patients had contact with a hospital outpatient clinic for their cardiac condition. Eleven patients were edentulous, and three of these patients were receiving hospital supervision. Of the 16 patients with some teeth of their own 10 were not under hospital-based supervision.

A reminder in the style of a credit card is being produced, and will be sent to each patient. It reminds patients to have regular dental inspections and to follow recommended prophylactic antibiotic measures.

Discussion

The awareness of the importance of dental hygiene and of the use of appropriate antibiotic prophylactic measures among patients at risk from bacterial endocarditis is far from satisfactory.^{4,5} This study has demonstrated that it is practicable to identify many at-risk patients using practice disease and drug registers, and also that the necessary counselling can be arranged quite easily. It is also clear from this study that a large proportion of these at-risk patients do not attend hospital outpatient departments. The general practitioner should therefore initiate the preventive measures needed to reduce the incidence of this largely preventable disease.

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