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- 1 Yusuf S, Held P, Furberg C. Update of effects of calcium antagonists in myocardial infarction or angina in light of the second Danish verapamil infarction trial (DAVIT-II) and other recent studies. *Am J Cardiol* 1991;67:1295-7.
- 2 Blauth CI, Arnold JV, Schulenberg WE, McCartney AC, Taylor KM. Cerebral microembolism during cardiopulmonary bypass. *J Thorac Cardiovasc Surg* 1988;95:668-76.

- 3 Woodman RC, Harker LA. Bleeding complications associated with cardiopulmonary bypass. *Blood* 1990;76:1680-97.
- 4 Gore JM, Sloan M, Price TR, Randall AM, Bovill E, Collen D, et al. Intracerebral hemorrhage, cerebral infarction, and subdural hematoma after acute myocardial infarction and thrombolytic therapy in the thrombolysis in myocardial infarction study. Thrombolysis in myocardial infarction, phase II, pilot and clinical trial. *Circulation* 1991;83:448-59.
- 5 Becker RC, Caputo R, Ball S, Corrao JM, Baker S, Gore JM. Hemorrhagic potential of combined diltiazem and recombinant tissue-type plasminogen activator administration. *Am Heart J* 1993;126:111-4.
- 6 Frishman WH. Current status of calcium channel blockers. *Curr Prob Cardiol* 1994;19:637-88.

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Prescription of regular aspirin in patients with chest pain referred to a cardiology outpatient clinic

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Recent trials have established the prophylactic value of aspirin in patients with stable angina.^{1,2} In the United Kingdom an estimated 22 000 new cases of angina pectoris present yearly, most of which are managed by general practitioners.³ Though the use of aspirin by general practitioners has been reported in suspected myocardial infarction and after established infarction, there has been no systematic study of aspirin use in patients with suspected stable angina. We report such a study.

Patients, methods, and results

The study population consisted of patients referred by general practitioners to the cardiac clinic between March and June 1994. Basic demographic data, aspirin status, contraindications to aspirin, and conventional antianginal treatments used were obtained from the clinic doctor by questionnaire. Treatment prescribed for other indications (hypertension, for example) was disregarded. Referrals were categorised into the following diagnostic groups: (1) non-specific chest pain; (2) suspected angina pectoris; (3) established coronary artery disease (for example, previous myocardial infarction); and (4) previous coronary artery bypass grafting or percutaneous coronary angioplasty.

It was usually clear from the referral letter whether the general practitioner suspected angina or non-specific chest pain. When there was doubt the referral was classified as "non-specific chest pain." Finally, the clinic doctor's diagnosis—suspected angina or non-specific chest pain—was established.

Between March and June 1994, 227 patients were referred with chest pain. Thirty one (14%) were referred for suspected non-cardiac chest pain and 17 (7%) had a recognised contraindication to regular aspirin. The remaining 179 (79%) were analysed. The table gives the results. In patients with suspected angina who were taking regular aspirin the mean (SD) drug score was 1.63 (0.9); the corresponding score in patients not taking aspirin was 1.15 (1.0). The clinic

doctor agreed with the diagnosis of suspected angina in 37 (86%) patients taking regular aspirin and 55 (69%) patients not.

Comment

Most patients with established ischaemic heart disease were taking aspirin regularly—particularly those after coronary artery bypass surgery or percutaneous coronary angioplasty, among whom uptake was 95% (18 of 19 patients). Only 43 of 123 patients (35%) referred for suspected angina were taking aspirin regularly.

Among patients not taking aspirin daily, arguably their general practitioners had considered the probability of angina to be below the "therapeutic threshold" for aspirin. For example, the average number of antianginal agents taken daily by patients not taking aspirin was less than among patients taking aspirin. In addition, the clinic doctor agreed with the provisional diagnosis of angina more often in patients taking aspirin. However, prescription of regular antianginal treatment is reportedly a reliable indicator that the general practitioner considers the diagnosis to be angina.³ Of 80 patients with suspected angina who were not taking aspirin, 54 were receiving one or more antianginal agents daily and 30 two or more.

The limited use of regular aspirin in patients with suspected angina contrasts with the widespread use of conventional antianginal treatment, which when compared with aspirin is expensive and may have appreciable adverse effects. General practitioners and other health care personnel should be aware of the benefits of regular aspirin—not only in patients with suspected ischaemic heart disease also in patients with clinical evidence of arterial disease.⁴

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- 1 Juul-Moller S, Edvardsson N, Jahnmatz B, Rosen A, Sorensen S, Omblus R. Double-blind trial of aspirin in primary prevention of myocardial infarction in patients with stable chronic angina pectoris. *Lancet* 1992;340:1421-5.
- 2 Ridker PM, Manson JE, Gaziano M, Buring JE. Low-dose aspirin therapy for chronic stable angina. *Ann Intern Med* 1991;114:835-9.
- 3 Cannon PJ, Connell PA, Stockley IH, Garner ST, Hampton JR. Prevalence of angina as assessed by a survey of prescriptions for nitrates. *Lancet* 1988;i:979-81.
- 4 Antiplatelet Trialists' Collaboration. Collaborative overview of randomised trials of antiplatelet therapy—I: prevention of death, myocardial infarction, and stroke by prolonged antiplatelet therapy in various categories of patients. *BMJ* 1994;308:81-106.

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Demography, use of aspirin, and use of antianginal agents by diagnostic group

Diagnostic group†	No of subjects	Mean age in years (SD)	No (%) male	No(%) taking aspirin	No (%) taking antianginal agents daily			
					Nil	1 Agent	2 Agents	3 Agents
2	123	60.5 (11)	74 (60)	43 (35)	31 (25)	37 (30)	41 (33)	14 (11)
3	37	63.4 (10)	29 (78)	28 (76)	4 (11)	12 (32)	7 (19)	14 (38)
4	19	60.7 (10)	18 (95)	18 (95)	4 (21)	5 (26)	9 (47)	1 (5)

†Group 2 suspected ischaemic heart disease; group 3 established ischaemic heart disease; group 4 previous coronary artery bypass grafting or percutaneous transluminal angioplasty.

Correction

Parental refusal to have children immunised: extent and reasons

A typesetting error occurred in this article by Dr Neil Simpson and colleagues (28 January, p 227). In the third paragraph of the subjects, methods, and results section the third sentence should have read: "The commonest reasons for refusal were homoeopathy (22 children; 21%) and religious beliefs (17; 16%)."