

Research papers

A survey of aspirin use for vascular prophylaxis in Wales

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ABSTRACT

Aspirin is of little interest to pharmaceutical companies and it therefore appears to receive relatively little promotion in vascular prophylaxis. A survey of aspirin taking by patients known to be at high vascular risk was therefore conducted in 12 general medical practices across Wales. Random samples of approximately 25 patients within each of six diagnostic groups associated with high vascular risk were selected within each practice. These patients were then written to and asked what drugs they were taking regularly. Questionnaire responses were

obtained from 1386 patients (85% of those contacted). Overall, only 53% of patients stated they were taking aspirin regularly. This finding provides evidence that low-dose prophylactic aspirin is poorly used by patients at high vascular risk in Wales. There is therefore an urgent need for the vigorous promotion of the drug for this indication.

Keywords: aspirin, prophylaxis, survey, under-use, Wales

Introduction

The first randomised controlled trial of low-dose aspirin in the reduction of vascular disease was conducted in Wales more than 30 years ago.¹ Since then, there have been over 140 trials which have been examined in major overviews.² When used in vascular prophylaxis, aspirin is undoubtedly the most thoroughly tested and cost-effective prophylactic available in general clinical medicine.

Aspirin is of little interest to pharmaceutical companies and it therefore appears to receive relatively little promotion in vascular prophylaxis. There is evidence from earlier studies that the drug is greatly under-used, but there is little up-to-date evidence for

the United Kingdom.³ To determine the status of aspirin use in Wales, a survey was conducted in patients known to be at high risk of a vascular event, namely myocardial infarction (MI) or stroke.

Methods

In mid-2003, a stratified sample of 16 general medical practices was chosen to cover the whole of Wales. The coverage included the capital city (Cardiff), several

small towns and several rural areas. Within these areas, a general medical practice was selected at random. No practice was known to have any special interest in the enquiry. Ethical approval for the work was given by an all-Wales ethics committee.

Practice visits were conducted between November 2003 and March 2004. The purpose of the enquiry and the method of investigation were explained to the practice manager and one the general practitioners (GPs). Lists were obtained for all patients in the practice within six diagnostic categories associated with a high risk of a vascular event. The categories are listed in Table 1.

From the lists, random samples of approximately 25 patients were drawn. Patients were drawn in a hierarchical manner, in that patients with a prior MI were drawn first, then those with a prior stroke and then others in the order shown in the table. Any patient within a group who also appeared in an earlier list, was excluded. Thus no patients with diabetes had had an MI, or a stroke or had angina; no patient with hypertension had had an MI, stroke, angina or was diabetic etc.

The patients drawn were sent a letter requesting their co-operation, together with a short questionnaire and a stamped addressed envelope. Those who did not return it were telephoned and the questionnaire was completed by verbal interview.

Patients were asked to list all drugs being taken regularly, both those prescribed and those purchased 'over the counter'. The interpretation of 'regular' was left to the patients. The questionnaire concluded with a checklist of a number of drugs, including aspirin, but apart from this there was no focus on it.

Occupation was requested and this was coded into manual and non-manual social classes using the *Standard Occupational Classification*.⁴

Results

Of the 16 practices selected, four declined to participate. Questionnaires were sent to 1637 patients and responses obtained from 1386 (85%).

Overall, 53% of the patients (absolute range of 31–60%) stated that they were taking aspirin regularly (Table 1). The proportions of patients with a prior MI, a prior stroke or present angina (69%, 65% and 76% respectively) are homogenous ($P > 0.1$) with an average of 72% and an absolute range in the 12 practices of 46–84%.

The proportions of the patients taking aspirin regularly are lower than those with established vascular disease, and there is significant heterogeneity between them ($P < 0.05$). It was found that 40% of patients with diabetes, 47% of patients prescribed a statin and 29% prescribed antihypertensive therapy were taking aspirin regularly.

The differences between the proportions of male and female patients taking aspirin (57% and 49% respectively) differ significantly ($P < 0.01$). The proportion of patients in manual social classes who stated they were taking aspirin regularly (59%) was also significantly greater ($P < 0.025$) than the proportion in non-manual classes (53%).

Table 1 Average proportions and absolute ranges of patients within the diagnostic groups who reported that they were taking aspirin

Diagnostic group	Proportion (%) (range)
Patients with a previous MI	69
Patients with a previous stroke	65
Patients being treated for angina	76
All vascular patients	72 (46–84)
Patients aged over 40 years with diabetes	40 (19–60)
Patients being prescribed a statin	47 (22–75)
Patients on antihypertensive medication	26 (5–50)
All patients ($n = 1386$)	53 (31–60)

The above list represents a hierarchy, in that no patients in any group after the first, appeared on a higher list

Discussion

Judged by current recommendations, there is a substantial under-use of aspirin in vascular prophylaxis in Wales. This underuse is however less in secondary prevention (patients with established vascular disease) than in those at high vascular risk who have not had a vascular event, namely the patients with diabetes, and patients who were taking a statin or an antihypertensive.

The case for aspirin prophylaxis after an MI is unequivocal. Some of the GPs questioned the giving of aspirin to patients who had suffered a stroke when it was unknown whether the cause was ischaemic or haemorrhagic. Patients with the latter cause, however, are still at an increased risk of an ischaemic event, and the withholding of low-dose aspirin is not entirely reasonable, particularly after the event is over.

Patients with diabetes mellitus are at high risk of vascular disease and a joint British group recommends aspirin.⁵ It is difficult to envisage grounds upon which a patient is advised to take a statin without being advised also to take low-dose aspirin. The situation regarding hypertension is a little more complex, but the fact that an ischaemic stroke is far more likely in a hypertensive patient compared with a haemorrhagic lesion make aspirin prophylaxis reasonable in patients prescribed antihypertensive medication.

The evidence from this survey indicates that there is a compelling case for the vigorous promotion of aspirin prophylaxis in patients known to be at high vascular risk. It is suggested that such promotion would be an integral part of a proposed aspirin strategy for Wales,

the elements of which are outlined in Box 1. In addition, the survey also provides baseline data against which changes, such as those introduced under the new General Medical Services contract, can be evaluated.

AUTHORS' CONTRIBUTIONS

Peter Elwood designed and directed the survey, is the lead author of the paper and guarantor for the study. Janie Hughes collected almost all the data and assisted with the statistics. Ginevra Brown, Gareth Morgan and Marcus Longley were involved in discussions throughout the research and assisted in writing the report.

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- 3 McCallum AK, Whincup PH, Morris RW *et al.* Aspirin use in middle-aged men with cardiovascular disease: are opportunities being missed? *British Journal of General Practice* 1997;47:417–21.

Box 1 Proposed elements of an aspirin strategy for Wales

An aspirin strategy for Wales could reasonably have four levels that cover the potential wider use of aspirin in the general population (level 1) through to the immediate use of aspirin when severe sudden chest pain is experienced (level 4).

For level 1, the Welsh Aspirin Group has suggested a public information strategy highlighting the benefits and risks of taking low-dose aspirin.⁶ The basis of the suggestion is that current population screening for vascular disease is neither efficient nor effective, and that wide publicity would allow each individual to make an informed choice about whether or not to take the drug.

For level 2, vigorous promotion of aspirin prophylaxis in patients known to be at high vascular risk is needed in Wales. The 22 Welsh local health boards, which commission health services, might be the lead authorities in taking forward the needed promotion, perhaps through the General Medical Services contract.

For level 3, the giving of aspirin by paramedics to patients for whom a '999' call for chest pain is needed, would need development. In 2001, it was estimated that only 25% of patients received 'early aspirin' from the Welsh Ambulance Service. A more recent internal audit indicated that this figure had risen to 63%, suggesting that a further increase may still be possible.

For level 4, there would almost certainly be benefit in advising patients at high risk of a vascular event to always carry one or two tablets of soluble aspirin and to chew and swallow one immediately if sudden severe chest pain is experienced. To our knowledge, there is no evidence of any implementation of an 'immediate aspirin' policy within the United Kingdom.

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- 6 Elwood PC, Morgan G, Brown G and Pickering J. Aspirin for all over 50? *British Medical Journal* 2005;330:1440–3.

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CONFLICTS OF INTEREST

None.

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