

# Aspirin for Primary Prevention Audit 2010

## Introduction to the Evidence

A number of trials and meta-analyses over the last few years have cast doubt on the role of aspirin in the primary prevention of cardiovascular and cerebrovascular disease. I will briefly summarise the evidence as published in GP update which seems to be from a number of reliable journals/publications used to inform general practitioners on best current practice. One recent large meta-analysis looked at 6 primary prevention studies, a total of 95'000 patients<sup>1</sup>. It demonstrated that aspirin had no effect on mortality or reducing stroke. There was an extremely small reduction in non-fatal MI from 0.23% to 0.18% per annum, that's an annual risk reduction of 0.05%. At the same time there was an increase in the risk of major gastrointestinal bleed, from 0.07% to 0.1%, that's 0.03%. The authors of this study concluded that aspirin is of uncertain value in primary prevention. A similar meta-analysis of 6 eligible trials published in November 2009 looked at aspirin for primary prevention of CVD and stroke in people with diabetes but no previous CV events<sup>2</sup>. A total of 10117 patients were included and no statistically significant reduction was found in the risk of major CV event, mortality or all cause mortality. Reduction in the risk of stroke was also insignificant in this study, although this was inconsistent across the studies. The risk of MI was also variable with a reduction being demonstrated for men but not women. This study didn't demonstrate any increased risk of GI bleeding with aspirin.

A database meta-analysis in 2004 for patients with Hypertension and no previous CVD showed that aspirin didn't reduce the rate of CV events<sup>3</sup>. In this review the HOT trial showed 0.5% reduction of MI over 5 yrs (NNT 200) but increased rate of major haemorrhage (NNH 154). It was therefore concluded that aspirin cannot be recommended for primary prevention in patients with raised BP as the NNH was greater than the NNT.

The Prevention of Progression of Arterial Disease Trial (POPADAD) was a Scottish Multi-centred trial involving 1276 patients<sup>4</sup>, all over 40 yrs with T1 or T2 DM, no CVD but ABPI s (ankle brachial pressure index) < 1.0 (i.e evidence of PVD but no symptomatic CVD). A daily dose of aspirin 100mg + antioxidant was compared with placebo. The results showed no significant difference in major CV events between the two groups, concluding aspirin is not effective at primary prevention of CVD in a high risk group.

The JPAD Trial published in 2008 also looked at primary prevention in diabetic patients<sup>5</sup>. This prospective Japanese study with 2'500 patients was a randomised controlled trial looking at prevention of CV events in patients with T2DM. The follow up was over a median of 4.4 yrs and this also showed that low dose aspirin didn't reduce CV events in this high risk group. Several other trials have also given similar outcomes.

## Aim

The aim of this audit was to identify how many patients in the Wychwood Surgery population were taking aspirin purely for primary prevention. The secondary aim of the audit will be to address the population concerned and advise them of current evidence of the effectiveness of aspirin in primary prevention particularly as balanced against the risks of taking it. It is hoped that this will lead to a shared decision with the patients to either stop or continue its use.

## Method

EMIS searches were performed on all registered patients on 21/01/2010. The first search identified all patients taking low dose aspirin (75mg or 100mg daily) as a repeat prescription.

Subsequent searches were performed in turn to exclude patients from the aspirin group with the following conditions:

- AF
- IHD
- CVA or TIA
- Atrial flutter

Because of variations in coding for these conditions, the remaining patients were listed and their notes briefly examined one at a time for any other possible indications for aspirin. The other indications identified included:

- AAA and aortic aneurysm
- Amaurosis fugax
- Thrombocythaemia + polycythaemia
- Aortic stenosis + few other cardiac diagnoses
- Retinal vein occlusion
- AF+flutter otherwise coded
- Carotid artery stenosis
- Cerebrovascular ischaemia, vascular dementia, cerebellar infarct

## Results

5323 patients notes were searched, all registered patients. 364 patients taking aspirin alone (7% of practice population). After allowing for patients taking aspirin for secondary prevention, 176 patients were found to be taking aspirin without AF/IHD/CVA/TIA or Atrial Flutter (3% of practice population). Further examination of all the patients' records from the group of 176 on aspirin showed 41 had alternative diagnoses/reasons for being on aspirin than those listed previously e.g. cerebellar infarct, PVD, aortic aneurysm. 135 patients were therefore on aspirin for primary prevention.

Note 88 patients with T2DM taking aspirin (2% of practice population), 59 of the 135 patients taking aspirin for primary prevention (44%) had T2DM.

## Conclusion

135 patients were on aspirin for primary prevention (2.5% of practice population or 37% of all patients on low dose aspirin)

Of patients with T2DM, the majority were taking aspirin, 44% of patients on aspirin for primary prevention had T2DM. Therefore 135 patients potentially need to be contacted and informed of the choice they have to discontinue or continue low dose aspirin.

## Plan

- To contact the patients identified by letter and explain in understandable plain English that aspirin can no longer be recommended for primary prevention.
- Offer the patients a choice of whether to continue taking aspirin or not.
- Advise patients to discuss this at their next medication review.
- Distribute a list of identified patients to their usual doctors.
- Consider re-auditing in 6 months to complete audit cycle.

## References

1. Antithrombotic Trialists Collaboration (ATT), (2009). Aspirin in the primary and secondary prevention of vascular disease: collaborative meta-analysis of individual participant data from randomised trials *The Lancet*, [Online] Volume 373. (9678), pp1849-1860. Available from: [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)60503-1/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60503-1/abstract). [accessed 11th March 2010]
2. De Berardis, G. et al., (2009). Aspirin for primary prevention of cardiovascular events in people with diabetes: meta-analysis of randomised controlled trials. *BMJ* [Online]. (339):b4531. Available from: doi: 10.1136/bmj.b4531. [accessed 11<sup>th</sup> March 2010]
3. Lip, G.Y. & Felmeden D.C. (2004). Antiplatelet agents and anticoagulants for hypertension. *Cochrane Database Syst Rev*. [Online] Issue 3. Art. No.: CD003186. Available from: DOI: 10.1002/14651858.CD003186.pub2 [accessed 11th March 2010]

4. Belch, J. et al., (2008). The prevention of progression of arterial disease and diabetes (POPADAD) trial: factorial randomised placebo controlled trial of aspirin and antioxidants in patients with diabetes and asymptomatic peripheral arterial disease. *BMJ*, [Online] (337):a1840. Available from: doi:10.1136/bmj.a1840. [accessed 11<sup>th</sup> March 2010]
  
5. Ogawa, H. et al., (2008). Low-dose aspirin for primary prevention of atherosclerotic events in patients with type 2 diabetes: a randomized controlled trial. *Journal of the American Medical Association*. [Online] 300(18) pp2134-41. Available from: doi: 10.1001/jama.2008.623. [accessed 11<sup>th</sup> March 2010]