

IS THERE A ROLE FOR ASPIRIN IN PRIMARY PREVENTION OF ISCHEMIC HEART DISEASE IN HYPERTENSIVE PATIENTS?

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CASE SCENARIO

Madam X, a 60 year old housewife who has chronic essential hypertension for the past 10 years on oral antihypertensive treatment. Her blood pressure is well controlled 130/80 mmHg. She is a non smoker and non diabetic. Her body mass index (BMI) is 28.5 kg/m². She has no end organ target damage. She asks if she need to take aspirin, as she heard from her friends that aspirin can prevent ischaemic heart disease.

Question: In a patient with essential hypertension but without other medical disorders or complications, should aspirin be prescribed to prevent coronary artery disease?

COMMENTARY

Patients with essential hypertension are at risk of target organ damage which includes left ventricular hypertrophy, coronary artery disease (CAD), heart failure, stroke or transient ischaemic attack, chronic kidney disease, peripheral arterial disease, and retinopathy. The use of aspirin as secondary prevention for patients with underlying CAD is well established. However, is the use of aspirin appropriate for the primary prevention of CAD in hypertensive patients?

In the Hypertension Optimal Trial (HOT study), 75mg of aspirin was shown to reduce the risk of myocardial infarction.¹ The protective effect of aspirin against myocardial infarction was confirmed in a meta-analysis of randomised controlled trials (which include the HOT study).² This meta-analysis showed that aspirin use raised the risk of gastrointestinal haemorrhage (statistically significant) and a non-significant increase in haemorrhagic stroke. In a meta-analysis of 17 trials, He *et al* showed a statistical significant increase in the risk of haemorrhagic stroke among aspirin users.³

So, low dose aspirin in patients without pre-existing CAD reduces myocardial infarction but increases gastrointestinal haemorrhage and possibly haemorrhagic strokes as well.

Does the use of aspirin confer more benefits than risk? Analysis of published meta-analysis concluded that the net benefit of aspirin increases with increasing cardiovascular risk.⁴ The use of aspirin as primary prevention with low cardiovascular risk should not be recommended as the risk of gastrointestinal bleeding and haemorrhage stroke may outweigh the benefit of it. Aspirin usage for primary prevention is probably worthwhile at cardiovascular event risk equal or more than 1.5% per year, but of limited value at coronary risk 1% per year; and it is unsafe at coronary event risk 0.5% per year. Thus the use of aspirin for primary prevention requires an accurate estimation of absolute coronary event risk.

In conclusion, aspirin as primary prevention should only be indicated to patients with high cardiovascular risk. Physician should assess patients' cardiovascular risks and benefits of aspirin therapy before starting it. Therefore for Madam X, control of modifiable risk factors such as weight reduction, regular exercise, maintaining a well controlled blood pressure are the main strategies in reducing the cardiovascular complications. Aspirin may not be necessary for her.

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