

Research in the aged

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As shown in this issue of *Australian Family Physician*, the aged have special health needs, are at greater risk of most diseases and trauma, and often have comorbidity, polypharmacy, and reduced physiological capacity. This places them at greater risk of drug-drug, drug-disease, drug-physiological interaction, and other adverse effects compared with younger age groups. However, the aged are often excluded from the very trials that are used to ascertain the effectiveness of the drugs and other interventions that are subsequently used on them.

As an example of the need for research in the aged, let us consider the case of recommendations on the use of low dose aspirin and the evidence that underpins its use in the elderly.

The effects of low dose aspirin on cardiovascular outcomes have been tested in randomised trials in primary and secondary prevention settings. Meta-analyses of these trials have shown that aspirin therapy reduces the subsequent incidence of adverse cardiovascular events.¹ However, only 12% of the individuals in the five primary prevention trials conducted were aged 70 years of age or over.² In the general adult population, aspirin therapy is warranted in secondary prevention, but because of the lack of clear benefit for primary prevention, aspirin has not been commonly recommended unless the underlying absolute cardiovascular risk is high. The American Heart Association recommends low dose aspirin use in individuals without known cardiovascular disease at, and above, 10% risk of a coronary or stroke event in the next 10 years.³ Most aged individuals would have this level of risk.

In the elderly following such a recommendation for primary prevention is problematic. This approach does not take into account the possibility of major differences in both the potential benefits and risks of therapy in such

older individuals. In addition, in this age group preservation of life may become a less important outcome than quality of life and maintenance of independence.

The potential benefits of aspirin therapy in the elderly are the anticipated reduction in coronary disease and stroke. There are other potential benefits of aspirin in the aged such the prevention of colon cancer.⁴ The potential risks of aspirin therapy in the elderly are major gut, intracranial and other vascular bed bleeding.

Cohort data suggest that the elderly have a higher absolute risk of gastrointestinal haemorrhage. Additionally, elderly patients are likely to have greater rates of minor bleeding. A randomised, placebo controlled pilot study conducted on 400 individuals free of evident vascular disease aged 70 years on low dose aspirin and followed for 12 months, found aspirin treated subjects had a significant decrease in mean haemoglobin levels which was also significantly greater than the decrease in the placebo treated group.⁵ Such a reduction in mean haemoglobin levels may be inconsequential in the young, but can have adverse effects on conditions common in the elderly such as heart failure.

There is also residual uncertainty about the extent of the risk of intracerebral haemorrhage in the elderly with low dose aspirin therapy. The risk of intracerebral haemorrhage is substantially higher in older subjects and hence if an increased risk is present its impact would be greater.

At present there is no study which has adequately examined the balance of risks and benefits of aspirin therapy in the elderly.⁶ Recognising this, the US Food and Drug Administration Cardiovascular and Renal Advisory Committee voted 11 to three against an expanded aspirin labelling to include mod-

erate risk individuals for the primary prevention of coronary heart disease events.

Conducting research on the aged also allows the study of aged related diseases such as dementia. For example, there is observational data on NSAIDs for the reduction in cognitive decline in the elderly and thus aspirin has the potential to delay the onset of dementia, a significant burden of disease in the aged.⁷

The aspirin story is therefore a strong argument that research not only should, but must, be conducted on those on whom it is most used, the aged.

References

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