

# From the Library

In the National Science Foundation's biennial report (April 2002) the woeful state of the public's understanding of the scientific process was documented. In this study 30% of adult Americans believe that UFOs are space vehicles from other civilisations; 60% believe in extrasensory perception; 40% think that astrology is scientific; 32% believe in lucky numbers; and 70% accept magnetic therapy as scientific. In trying to explain how so many people can endorse such unscientific notions Michael Shermer, publisher of *Skeptic Magazine*, points out that this is an example of confirmation bias. By this he means that most of the time in evaluating a new idea we sort through the body of data and select those that most conform with what we already believe and ignore or rationalise away those that do not. He suggests that science needs to be taught not as a database of unconnected facts but a set of methods designed to describe and interpret natural phenomena. (*Scientific American* 2002;**287**:35)

Current known risk factors for coronary heart disease do not explain all of the clinical and epidemiological features of this disease. Additional environmental factors probably contribute and the role of inflammation in exciting the vascular pathology is increasingly being investigated. In a recent study from Iran the role of *Helicobacter pylori* in the atherosclerotic process was investigated. In this study of 52 patients there was a significant relation between *H pylori* infection and acute myocardial infarction. There was, however, no significant difference between patients with positive or negative coronary angiograms and infection rates of *H pylori*. These results suggest that *H pylori* may influence acute myocardial infarction by enhancing thrombosis, perhaps by mediating an increase of fibrinogen levels. (*Coronary Health Care* 2001;**5**:202-7)

The increasing prevalence of asthma in the United States and other developed countries in the past few decades is a matter of concern. Whether there may be many factors that account for the development of childhood asthma, allergic sensitisation to common allergens has consistently been shown to be related to the risk of developing asthma. Exposure to dogs and cats during infancy has been thought to increase the risk of subsequent allergies to these animals. Nevertheless, in a recent prospective birth cohort study of healthy full term

infants in Detroit, Michigan, the risk of allergic sensitisation was correlated to early exposure to dogs and cats. Exposure to two or more dogs or cats in the first year of life appeared to reduce the subsequent risk of sensitisation to multiple allergens during childbirth. Exposure to two or more dogs or cats was also associated with significantly lower serum IgE concentration, less methacholine airway responsiveness, and better lung function. (*JAMA* 2000;**288**:963-72)

Drivers older than 60 years of age have the lowest crash rate when measured on the basis of licensed drivers. However, when measured on a per mile driven basis older adults have a crash rate nearly equivalent to that of younger drivers including teenagers. Moreover, once in a crash, older adults are more likely to incur a disabling injury or die than young drivers. In a recent prospective cohort study of 277 patients with cataract from 12 eye clinics in Alabama an attempt was made to determine the impact of visual impairment related to cataract on the crash risk for older adults. In this study patients with cataract who underwent cataract surgery and intraocular lens implantation had half the rate of crash involvement during the follow up period compared with cataract patients who did not undergo cataract surgery. Although there may be many factors that account for the relatively high per mile driven rate of car crashes among the elderly visual impairment may be a significant contributing factor. Improving vision through cataract surgery and IOL implantation could be a widespread benefit to driver safety given the increase in the over 60s driver population in most developed countries. (*JAMA* 2002;**288**:841-8)

The French "paradox" continues to fascinate medical investigators. Red wine polyphenols have been shown to have anti-atherogenic activity primarily as a result of the antioxidant effects on low density lipoprotein oxidation. Now, in a study from Japan the effects of red wine polyphenols on the proliferation of vascular smooth muscle cells has also been investigated. Using cultured rat vascular smooth muscle cells, these investigators demonstrated that treatment with red wine polyphenols had a potent inhibitory effect on the proliferation and DNA synthesis in cultured vascular smooth muscle cells. A less pronounced inhibitory effect on the proliferation of

bovine vascular endothelial cells was also demonstrated. In human vascular smooth muscle cells red wine polyphenols significantly inhibited proliferation in DNA synthesis as well. These results demonstrated that the antiproliferative effect of red wine polyphenols on vascular smooth muscle cells may be important in explaining the French "paradox." (*Mechanisms of Aging and Development* 2002;**123**:1033-9)

A growing body of information suggests that there is a positive relation between infections with *Chlamydia pneumoniae*, *Helicobacter pylori*, or cytomegalovirus and the occurrence of coronary artery disease and stroke. The positive relation between infection burden and coronary artery disease seems to be significant. The role of inflammation in exciting the vascular pathology continues to be investigated. Now in a multicentre population based case-controlled study from the Netherlands, the role of these pathogens in peripheral vascular disease has been investigated. In this study there was an increased risk of peripheral vascular disease related to infection burden especially among a subgroup of women with a high C reactive protein level. The risk of peripheral arterial disease did not appear to be related to the single pathogen, in particular the cumulative number of infections and infection burden. (*Atherosclerosis* 2002;**163**:149-56)

In the United States ginkgo is widely marketed for its ability to improve memory, attention, and related cognitive functions. It is available as a health supplement, in modified soft drinks, and other dietary supplements. However, in a community dwelling volunteer study of men and women older than 60 years of age the evaluation of ginkgo led to disappointing results. In 6 weeks, ginkgo did not facilitate performance on standard neuropsychological tests of learning, memory, attention, and concentration for naming and verbal fluency in elderly adults without cognitive impairment. Moreover, the ginkgo test group did not differ from a controlled group in terms of self reported memory function or in ratings by spouses, friends, and relatives. These data do not suggest that there is a measurable benefit in memory or related cognitive function in healthy adults related to routine ingestion of ginkgo. (*JAMA* 2002;**288**:835-40)



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