



Heart Research

NEWSLETTER 1 2007

Heart Research Centre impresses at the International Congress of Behavioural Medicine

The Heart Research Centre was invited to present a special symposium on depression and coronary heart disease at the International Congress of Behavioural Medicine recently held in Bangkok, Thailand. Dr Alan Goble and Dr Barbara Murphy from the Centre, together with Associate Professor David Hare from the Austin Hospital, presented papers on the influence of depression on outcomes after acute myocardial infarction and other cardiac events. Professor Hannah McGee from Dublin, Ireland, was the discussant and stimulated very lively debate from the audience during question time. Dr Goble also presented a poster entitled "Depression after acute myocardial infarction- are there two groups of patients?" which stimulated a lot of interest from the viewers. Dr Barbara Murphy presented a second paper entitled "Predictors of 30-day readmission following coronary artery bypass graft surgery" for which she won a Citation Award.



Dr Barbara Murphy with Dr Alan Goble and Dr Marian Worcester

Coronary artery disease is the most common cause of significant ill health in industrialised societies, with depression the second most common cause. Cardiac patients have higher levels of depressed mood than the general population and depression in cardiac patients is associated with increased mortality.

The conference attracted researchers from many countries in Europe, Asia and Australasia. Keynote speakers included Professor Neil Schneiderman, who spoke about the influence of socio-economic development on people's vulnerability and behavioural responses. Dr Schneiderman also reviewed the relationship between overweight, obesity and diabetes. He concluded, to the delight of many (particularly Dr Goble) that, for practical purposes, it is the increase in weight that leads to insulin resistance and diabetes. He pointed out that those people who developed diabetes during pregnancy or after a heart attack generally carried more fat than those who did not develop diabetes. He suggested that Type 2 diabetes can not only be controlled by weight loss; it can be reversed or cured by weight loss, provided one does not regain the lost weight. That is quite a challenge for those with diabetes and also to those who offer treatment to those with diabetes. Other keynote presentations were given by Dr Prakash Gupta, who spoke about "Challenges to tobacco control- observations from India", and Dr Prakit Vathesatogkit whose presentation concerned the success of tobacco control campaigns in Thailand.

The conference provided many opportunities for meeting others involved in similar research from all parts of the world. Of particular interest were researchers from Cambridge, England, whose work on social stress and stroke was presented by Dr Paul Surtees.

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Aspirin: Why are so many people taking it?

There are many steps in the development of heart attacks and strokes. The major early phase is the development of cholesterol deposits under the inner lining of blood vessels. These deposits gradually grow over many years and may interfere with the flow of blood through the arteries which deliver blood to the various organs.

The major causes of these deposits or “plaques” are well known. These causes are referred to as “risk factors”- high blood pressure, high cholesterol level in the blood, smoking, physical inactivity, overweight and diabetes. Over half of the population has at least one risk factor. These can be controlled by a healthy lifestyle and, if needed, medications. However, they cannot be controlled if they are unknown. This is a major reason for having your blood pressure and cholesterol levels checked from time to time. Your individual risk for a heart attack or stroke will depend upon your risk factors. See your doctor about that.

The second major and late phase is more abrupt. Changes may occur in or over one of the plaques, most commonly supplying the heart muscle (coronary heart disease) or brain (cerebral artery disease). This change in the surface of the plaque will lead to the sealing off of the damaged surface, initially by covering the surface with platelets. These platelets are very small. They are produced by cells in the bone marrow and circulate throughout the blood, stopping excessive bleeding by blocking off holes in the inner lining of the blood vessels. Platelets stop the blood from bleeding into the tissues which leads to bruising. If one has plaques in the arterial lining and change occurs in one of those plaques (fissuring), platelets will accumulate over the plaque.

The platelet collection will then be held together by a fibrinous clot, stabilising the sealing process. The presence of fibrin may lead to the growth of a blood clot in the artery. This clot may markedly narrow or block the artery. If that artery supplies blood to part of the heart muscle, one has a heart attack. If it supplies blood to a part of the brain, one has a stroke.

Aspirin (usually given in small doses of 60 mg, 75 mg, 100 mg, 150 mg) stops or reduces the accumulation of platelets on the plaque. Thus, aspirin reduces the chance of having a heart attack or stroke by up to half.

Why doesn't every middle aged person take aspirin? Some people think they should. The answer is clear, however. Aspirin prevents heart attacks and strokes amongst those who are at high risk of heart attacks and strokes. Aspirin has little, if any, beneficial effect in those people of low risk.

However, Aspirin slightly increases the chance of major bleeding. For those at low risk, there is little gain, and possibly serious bleeding amongst those who are taking Aspirin. For those at high risk, particularly those people known to have arterial disease (heart attack or past stroke), there is great gain, which far outweighs the risks of bleeding.

Why not take a large dose rather than the recommended small dose of Aspirin? Again, the answer is bleeding. A high dose leads to more bleeding than does a low dose. In terms of stabilising blood platelets and preventing the development of clots in arteries, a low dose is as effective as a high dose.

Aspirin is a very old drug. It comes from willow trees. Its early use was to reduce pain from inflammation. That in the past required a larger dosage. Its current major benefit is in helping us overcome the effects of behaviours which increase the chances of developing unstable cholesterol plaques, heart disease and stroke. Recognition of the benefits from Aspirin is one of the great but simple medical advances of the past 50 years.



Dr Alan Goble
Cardiology Consultant

The views expressed are those of the author and not necessarily those of the Heart Research Centre.

Research profile



Ms Fiona Mitchell
CBT trial co-ordinator

Fiona is a registered coronary care nurse and a registered probationary psychologist. She completed her general nursing and post graduate Coronary Care Certificate at The Royal Melbourne Hospital and has worked in several of Melbourne's coronary care and cardiothoracic units. She took some time away from nursing to work in marketing in the medical and pharmaceutical industry but found it was the psychological aspects of marketing she enjoyed and the patient contact that she missed. She then returned to nursing as a Clinical Co-ordinator while she studied for a Bachelor of Behavioural Science at Monash University. Following completion of her honours year, Fiona applied to work at the Heart Research Centre because it provided a unique opportunity to pursue her dual interests in psychology and cardiovascular disease. It was also an area of research that involved ongoing patient contact. When she is not at work, Fiona spends her time with her husband and three children; sometimes playing tennis, reading or sailing but mostly driving children to their many social, school and sporting commitments.

Fiona's dual qualifications in nursing and psychology make her a most valuable addition to the Heart Research Centre's team. Interestingly, Fiona explored the internet at length to find an organisation which did research in her areas of interest and found our website at www.heartresearchcentre.org extremely informative.

Beating Heart Problems

Following an acute cardiac illness such as a heart attack, coronary angioplasty or coronary artery bypass surgery, patients usually return home with a list of instructions. They are to change their diet, exercise more, give up smoking and manage new medications - each direction requires a major change in lifestyle. In addition patients often have concerns, possibly not voiced, about their ability to return to work, resume their previous level of activity and whether others around them will now view them as an invalid. It is not surprising that at this time people are particularly vulnerable to anxiety and depression. Recently, the relationship between depression and heart disease has been the subject of considerable research. It is now acknowledged that patients with heart disease are three times more likely to suffer from depression than those in the general population. Cardiac rehabilitation programs play a vital role by supporting patients in their physical recovery. They guide them back to physical activity and offer information about the lifestyle changes they need to make. However, further support is needed to assist individuals who are feeling depressed or anxious. Patients also need to be taught the skills for maintaining changes to their health behaviours.

The Australian Rotary Health Research Fund is funding a study at the Centre to test the effectiveness of a cognitive behavioural therapy (CBT) program to help patients in these areas. Participants are taught the way they think about problems and to change their thought processes. We hope to find out if this group secondary prevention program really does help people to make the required lifestyle changes to prevent and manage anxiety and depression. Feedback from patients to date has been very positive. One patient found it beneficial to learn to control his emotions and work on his own thoughts. He said "They complemented each other and I think that is what I liked most".

Patients with an acute cardiac illness are offered the opportunity to participate in the trial, which starts three weeks after their discharge from hospital. This program is called *Beating Heart Problems* and is offered in addition to the usual cardiac rehabilitation program based upon exercise and education. Groups of six to 10 participants discuss a different topic each week. Topics covered include how to recognise and avoid depression and anxiety as well as managing a healthy diet, exercise and social support. Participants will be followed up four and 12 months after their cardiac illness. The trial co-ordinator is Fiona Mitchell who joined the Centre in July 2006 and is profiled in this newsletter.

International Council on Women's Health Issues

The annual congress of the International Council on Women's Health Issues was held recently in Sydney. The Congress, which attracts national and international researchers and practitioners, was attended by the Heart Research Centre's Senior Research Fellow, Dr Barbara Murphy who presented a paper in a special session on women and cardiovascular disease. The paper was based on data gathered from our recent study of 260 female cardiac patients. While most women in the study reported that they had received some health advice, apparently few had received adequate information about resuming activities such as work, gardening, sex, driving and sport. Older women (70 and over) received the most limited advice. The paper stimulated discussion amongst conference delegates about strategies for ensuring that all women are provided with specific, personally relevant information following their cardiac event to assist in their recovery. The study will be published next month in the *European Journal of Cardiovascular Prevention and Rehabilitation*.

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