

CAESARIANS AND POST-NATAL DEPRESSION

Having a baby by caesarean section is becoming increasingly common in the developed world, with more than 20% using this method of giving birth. The rise in popularity of caesareans has raised questions in recent years about the mental health of mothers, in particular whether or not they are more susceptible to depression.

To try to answer some of these questions Dr Frances Carter and colleagues from the Department of Psychological Medicine have carried out a wide-ranging literature review examining the link between caesarian section and post-natal depression.

"The good news is that there are no clear links according to the best international studies between caesarians and post-natal depression which affects about 10% of mothers," says Dr Carter. "This'll be reassuring for women in New Zealand who may have a caesarean section."

Other key findings of the review are that the better the study in terms of its methodology, the less likely it was to find a link, and that when similar studies are pooled a link with post-natal depression is not evident. Neither is a caesarean a special risk factor in comparison to other known risks for post-natal depression.

Dr Carter says that one of the interesting findings was that the impact of caesareans on mood may depend on the social context in which the procedure occurs. These include such things as cultural norms, preparedness and the social support available to women.

The authors of one study in Taiwan believe there is no link because women there receive greater social support following a caesarean. Another study found that women in an urban setting have lower rates of post-natal depression following a caesarian section.

The review only looked at post-natal depression and caesarians, it did not examine issues such as caesareans and anxiety disorders and post-traumatic stress disorder. It also examined evidence for the link in women in general, which does not rule out the possibility that an individual there may be some relationship between having a caesarean and post-natal depression.



Dr Frances Carter

"Neither is it clear whether women who're already vulnerable for some other reason, are at increased risk of post-natal depression following a caesarean. Studies have not been done examining this aspect," says Dr Carter.

DR REBECCA ROBERTS: DISTINGUISHED RESEARCH SCIENTIST



Research Fellow, Dr Rebecca Roberts from the Gene Structure and Function Research Group is breaking new ground in our understanding of the debilitating illness called Inflammatory Bowel Disease (IBD) which affects over 1000 people in Canterbury.

Over the last decade, and in particular since gaining her PhD in 2001, she has distinguished herself as an innovative and brilliant health researcher in the area of pharmacogenomics, or the study of how our genetic make-up interacts with drugs for particular conditions. In July this achievement was recognised by the University of Otago when Rebecca was one of five recipients of the Early Career Awards for Distinction in Research, worth \$5000 each.

"I was surprised in some respects. You hope that hard work will pay off, often it doesn't, and then occasionally you get a dividend like this which is very nice," she says in her quiet and precise manner.

Dr Roberts won the Award because of her outstanding research record as a young researcher. Since 2003 she has published 19 papers in international peer reviewed journals; seven of which she is the lead researcher. She also has another nine papers about to be submitted, or with journals. It is this kind of brilliant laboratory-based research which is making a significant difference in our understanding of incurable conditions like IBD.

"Actually medical research isn't easy. In some respects it is incredibly hard and to succeed as a scientist you have to not only be very well qualified and intelligent, but above all tenacious and almost stubborn. If you are not tenacious you won't survive in research because so many experiments fail, and it can be incredibly frustrating," she says.

But there are positives according to Rebecca. Some of these are the freedom to follow your interests and be in control of your day. She also says that science can be really exciting when things work out, and that no day is the same.

Dr Robert's research at present is focussed on investigating the genetic basis for people at risk of developing IBD. She is also interested in identifying genes which might be used to predict the age of onset, disease location in the bowel, and its behaviour and requirement for surgery.

She is also researching genetic factors which could influence patients' response to the main immuno-suppressant drugs which are used to manage the disease. One of the reasons for this research is the difficulty of accurately prescribing these drugs because of adverse side-effects.

Rebecca is hoping to win another grant to allow her to continue her ground-breaking work after the end of this year. If she doesn't, then the only option could be to go overseas. Her funding at present is through a Foundation for Science, Research and Technology NZ Science and Technology Postdoctoral Fellowship.



University of Otago, Christchurch, August 2007



Connecting with the Community

It's a great pleasure to introduce the August 2007 newsletter which connects the University of Otago, Christchurch with our community. The annual Health Research Open Day, organised by the Canterbury Medical Research Foundation, is being held on Sunday 26th August. This provides a unique and popular opportunity for the public to hear speakers on health research, to visit laboratories, view the new imaging facility at the Van der Veer Institute and to talk with health researchers about their work at over 20 displays in the foyer.

Over recent months we have heard of our success with the tertiary sector's Performance Based Research Fund (PBRF), and with the annual grant funding round by the Health Research Council (HRC).

Our PBRF results placed us in the top research ranking in the country of the four medical schools, with Auckland a close second.

We received over \$10 million from the HRC, with the two largest grants being for Professor David Fergusson to continue the internationally renowned Christchurch Health and Development Study, and for my Group's research on Clinical Trials and the Molecular Genetics of Bipolar Disorder, Depression and Eating Disorders.

Professor Ann Richardson's new HRC grant is described in more detail in this newsletter. Other large grants included one for Dr Chris Pemberton of the Cardioendocrine Research Group and one for Professor Doug Sellman, Director of the National Addiction Centre, to complete a multi-centre trial in people with both alcohol dependence and depression.

Professor Peter Joyce
Dean



University of Otago, Christchurch.
2 Riccarton Avenue Christchurch. Ph: (03) 364 0530. Fax: (03) 364 0525. www.chmeds.ac.nz



BEATING BOWEL CANCER BY COMPUTER.

New Zealand is a gold medallist when it comes to colorectal cancer with some of the highest rates in the world of this major disease. However, despite a national Cancer Control Strategy and guidelines for treatment there are many aspects of the current system which could be improved in terms of early diagnosis and treatment, and the possible introduction of screening.

Professor Ann Richardson, biostatistician Magnus McGee, and a 14 member multi-disciplinary team have been funded by the Health Research Council to provide essential information to reduce the impact of colorectal cancer in New Zealand. They are developing New Zealand's largest ever computer modelling project to improve intervention and treatment for bowel cancer which causes around 1,100 deaths a year.

"Bowel cancer is a major health issue in New Zealand, and it's important that the system intervenes in a timely fashion, but also as efficiently as possible," says Professor Richardson.

"There's no point just increasing funding for colonoscopies without having the information to plan across the whole spectrum of screening, early detection, and treatment for this serious disease."

The University of Otago, Christchurch led research team, which also includes health researchers from the University of Otago's Dunedin and Wellington campuses, the University of Canterbury, University of Auckland, and Middlemore Hospital, to develop a computer model to simulate a large number of individual bowel cancer case histories. It will model and analyse the best ways to screen, diagnose, treat and manage bowel cancer to improve our ability to reduce the impact of this disease.

"It's important to understand that it's more cost effective, and cheaper in the long run, to have health service planning which is based on good evidence and information," says Mr McGee.



"We'll be using data from a wide range of bowel cancer studies in NZ and overseas, to determine the optimum times for intervention and screening, both in terms of human health, and financial costs. This isn't something we have in New Zealand at this stage and it's affecting strategic planning."

The big bonus of computer modelling for bowel cancer is that researchers can constantly add extra detail and new information which then provides a greater range of options; for instance, whether it is better to screen for bowel cancer every three or five years, and at what ages.

"You're then making an informed decision rather than approaching the problem in an unsystematic manner," says Professor Richardson.

The Christchurch researchers say this approach to disease control is not new and has been tried with success in the Netherlands and the USA. What is new is its application in this country with a major disease such as bowel cancer, with the expectation that the computer model developed over the next three years will be able to be applied to other diseases.

Back Row: Dr Diana Sarfati, Dr Ian Sheerin, Assoc. Prof Bridget Robinson, Ms Suzanne Pitama, Dr Terri Green, Assoc. Prof Brian Cox, Dr Tony Reeder, Dr Patrick Graham,
Front Row: Dr Lisa Fitzgerald, Mr Magnus McGee, Prof Ann Richardson, Mrs Gillian Abel.

INTERNATIONAL COLLABORATION BENEFITS CANCER RESEARCH

Deep space is where the Cancer Genetics Research Group is travelling in Christchurch. Not literally but figuratively, as it reveals new and undiscovered genetic changes associated with leukaemia and other cancers.

"It's tremendously satisfying and exciting work we're doing at present," says Dr Ursula Jewell, enthusing about the project exploring genetic aberrations in patients with acute lymphocytic leukaemia. "It's like developing a far superior but different telescope, exploring deep space, and discovering all these new stars."

This progress hasn't happened overnight. The Cancer Genetics Research Group started establishing the technology with PhD student So Young Moon in 2003. But it has made huge strides with the arrival of Dr Jewell from Germany in 2005, and since April 2007 through a new and fruitful collaboration with Professor Wan Lam and colleagues at the British Columbia Cancer Research Centre in Vancouver, a relationship which will produce gains for both sides in future.

The Christchurch researchers have been using a relatively new and powerful technique called array Comparative Genomic Hybridisation or CGH. The assay uses microscope slides with 27,000 segments from the human genome and allows high resolution analysis of abnormal genetic changes in cancer patients.

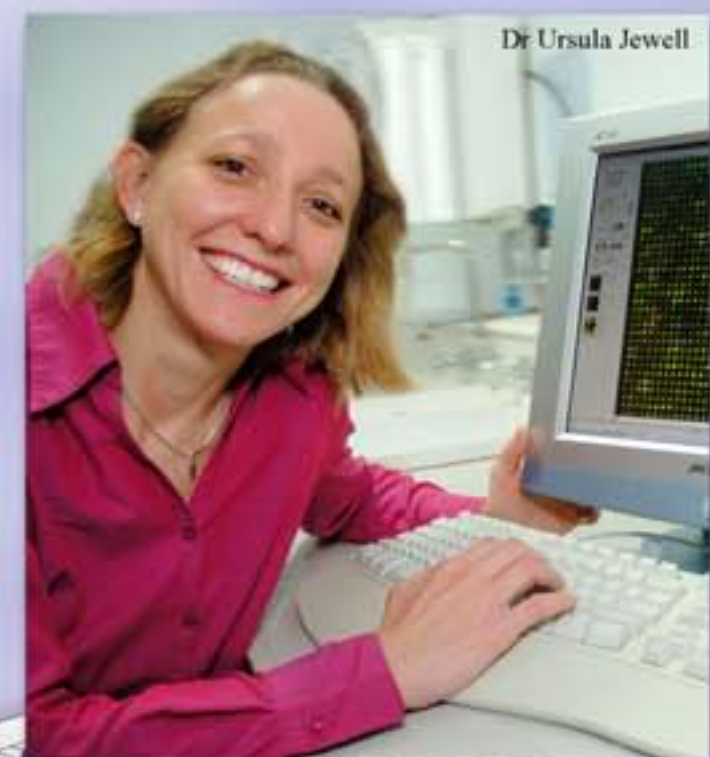
"It's really important to get the best slides possible to enable researchers to distinguish even small genetic aberrations in patients, and the slides from Vancouver are excellent quality. At \$1,000 each they have to be good. It's not an easy process looking for submicroscopic genetic changes that are responsible for causing a particular disease; especially against a background of normal genetic variations that occur in every individual.

While the microarray slides from the BC Cancer Research Centre have made an enormous difference, other major developments have been achieved by Dr Jewell and her colleagues by combining powerful analytical software programs for interpreting patient data.

"The type of tests and the quality and detail in our analysis really impressed the Canadians when we visited them in April," says Dr Jewell. "They thought we'd done a lot more work with the CGH assay and their software, than any lab they'd dealt with."

Dr Jewell and the head of the Cancer Genetics Research Group, Associate Professor Christine Morris, are excited about the future of collaborative studies with the BC Cancer Research Centre and the application of this new and very powerful technique to the diagnosis of patients with cancer and other diseases. This collaboration between the two laboratories is a prime example of the benefits of sharing skills and knowledge in the world of medical science for the long term benefit of patients and their families.

Funding for this research is through the Child Cancer Research Foundation and the Cancer Society.



Dr Ursula Jewell

