



FIBRES

Connecting ADRI Friends to Research

AUTUMN 2012

ASBESTOS DISEASES RESEARCH INSTITUTE

FROM THE
DIRECTOR
PROFESSOR NICO VAN ZANDWIJK

The ADRF Board welcomes new Chair
John O'Meally AM RFD



It is with great pleasure I welcome Judge John O'Meally as the new Chair of the Asbestos Diseases Research Foundation (ADRF). Since 1989 John has been Judge (senior member) of the Dust Diseases Tribunal and from 1998 until the end of 2011 he has presided over this Tribunal. It is a privilege that John has agreed to lend his vast experience to ADRF. Undoubtedly John's expertise will contribute to the professionalism of our organisation and will foster the best circumstances for research excellence at the ADRI. John's Chairmanship also marks the end of the interim Chairmanship of Mr David Henry and I would like to thank David for his hard work and support over

the last 3.5 years. Significant progress has been made during these years. With 16 staff, ADRI has become a busy research place and in this newsletter you will see that ADRI research has received wide international attention. ADRI's aim: 'to improve the diagnosis and treatment of asbestos-related diseases and at the same time to contribute to more effective measures to prevent exposure to asbestos' is an excellent stimulus for the researchers and the management team. Our new Chair will stimulate us further to help create a better future for all those unfortunate Australians exposed to asbestos.

Top 25 Hottest Articles

Dr Glen Reid's publication "Reid G, Kirschner MB, van Zandwijk N. Circulating microRNAs : association with disease and potential use as biomarkers" published in *Critical Reviews in Oncology/Hematology* was one of the Top 25 Hottest Articles for 2011.

In this article Dr Reid reviews the disease-specific profiles of circulating microRNAs, and the methodologies used for their detection and quantification. The control of gene expression by microRNAs (a short sequence of genetic information) influences many cellular processes and has been implicated in the control of many (patho)physiological states. Recently, microRNAs have been detected in serum and plasma, and circulating microRNA profiles have now been associated with a range of different tumour types, diseases (such as stroke and heart disease), as well as altered physiological states such as pregnancy. The possible functions of circulating microRNAs and their potential as non-invasive biomarkers were also discussed.

Top 25 Hottest Articles

Critical Reviews in Oncology/Hematology
January to December 2011 full year

RSS Blog This Print Show condensed



1. **Circulating microRNAs: Association with disease and potential use as biomarkers** : Review article
Critical Reviews in Oncology/Hematology, Volume 80, Issue 2, November 2011, Pages 193-208
Reid, G.; Kirschner, M.B.; van Zandwijk, N.
 Cited by Scopus (11)
2. **Febrile neutropenia: A critical review of the initial management** : Review article
Critical Reviews in Oncology/Hematology, Volume 78, Issue 3, June 2011, Pages 185-194
Klastersky, J.; Awada, A.; Paesmans, M.; Aoun, M.
 Cited by Scopus (2)

ADRI researchers raise hopes for easier and earlier detection of mesothelioma



Dr Michaela Kirschner, Prof. Nico van Zandwijk & Dr Glen Reid

Hopes for easier and earlier diagnosis of mesothelioma have risen after researchers, led by Dr Glen Reid and Professor Nico van Zandwijk, from the ADRI presented breaking findings at the European Society for Medical Oncology's 3rd European Lung Cancer conference in Geneva, Switzerland, identified a small molecule that is more abundant in the blood of people with mesothelioma than in healthy people. Speaking at the conference, ADRI researcher, Dr Michaela Kirschner, said currently the diagnosis of mesothelioma, the aggressive cancer caused by asbestos exposure, depended on the availability of a tissue biopsy. "However, suitable biopsies are not always available, which can leave doctors uncertain about the patient's diagnosis, sometimes resulting in a delay to the start of treatment". Dr Kirschner said: "If doctors could use a diagnostic marker based on a simple blood test, it could circumvent the problem of availability of tumour tissue, and help to accelerate the diagnostic process. So far, a number of proteins have been proposed as blood-based markers for malignant pleural mesothelioma, however none of these has so far reached the accuracy required for routine clinical use." In the new study, Dr Kirschner and colleagues explored whether molecules known as microRNAs were present in the blood of patients and whether they could serve as a diagnostic marker for the disease. These studies revealed that the level of a particular microRNA known as miR-625-3p was four-fold higher in the blood of mesothelioma patients. Measuring levels of that molecule in two independent series of blood samples allowed the researchers to discriminate between MPM patients and controls with an accuracy of 82.4 per cent. "Nevertheless, additional studies are needed to support these promising findings and to confirm that miR-625-3p is sensitive and specific enough for the proposed diagnostic task." Dr Kirschner said.

The Biaggio Signorelli Foundation supports another Fellowship



Casey Wright has joined the ADRI team as a Biaggio Signorelli Foundation Fellow bringing extensive gene expression profiling skills to our research effort. Before coming to the ADRI Casey had undertaken her PhD in the "Genomic characterisation of asbestos-related lung cancer" at The Prince Charles Hospital where she was a recipient of an NHMRC Biomedical Postgraduate Scholarship. These studies focussed on investigating gene expression profiles, copy number variations and methylation profiles in asbestos-related lung cancer. Casey has presented her work at several international and national meetings including the recent World Lung Cancer Conference in Amsterdam. She has received several prizes and awards including, a Cancer Council Queensland Travel Grant-In-Aid (2011), Australian Lung Cancer Conference Young Investigator Award (2010), Maurice Blackburn International Travel Grant (2009), and was runner-up in the Australian Lung Cancer Conference Young Investigator's Poster Prize in 2008. She has written and been involved with several publications investigating asbestos fibre counting in lung cancer patients, gene expression profiles in asbestos-related lung cancers, and CYP1A1 polymorphisms in lung cancer. Casey is passionate about contributing to research that can potentially revolutionise treatment options, provide greater understanding of biology and provide better quality of life for sufferers of mesothelioma. We welcome her to the ADRI as a Biaggio Signorelli Foundation Fellow.



ADFA Fellow

Dr Yuen Yee Cheng has been supported by the Asbestos Diseases Foundation of Australia since 2010. Dr Cheng's current focus is on analysis of DNA methylation in malignant mesothelioma. Methylation is a biochemical change in the DNA which cancer cells use to 'switch off' so-called tumour suppressor genes, allowing the cancer cell to grow unchecked. This work has identified genes with potential tumour-suppressing activity in mesothelioma cells, and these may also represent biomarkers of the disease. Dr Cheng is also involved in a project together with researchers at University Technology Sydney (UTS) which aims to identify whether DNA methylation contributes to the important early changes in gene expression associated with exposure to asbestos.

On Monday 21 November 2011 the ADRI hosted the launch of the week-long Asbestos Awareness Campaign

Working in partnership with the Asbestos Education Committee, the ADRI launched Asbestos Awareness Week with the **Think Smart, Think Safe, Think asbestosawareness.com.au** - it's not worth the risk!' campaign on the 21 November 2011 and the newly developed website asbestosawareness.com.au to provide homeowners, renovators and handymen with access to important information on safe practices enabling them to appropriately manage asbestos in and around their homes.

Mayors and Council representatives were invited from every council throughout Sydney metropolitan area to join us in taking our vital community health message into every home in every community across Sydney.

We are delighted to report that the outcome of this national integrated awareness and education campaign reached over 11 million Australians utilising multiple communication streams including; television, radio, newspapers, the website and other educational materials.



Mr Greg Cummings, Holroyd Council Representative; Dr Glen Reid, Senior Researcher, ADRI; Ms Anita Anderson, General Manager, Workers' Compensation Dust Diseases Board of NSW; Mr Peter Robinson, Construction Team Manager, WorkCover NSW and member of Heads of Asbestos Coordination Authorities (HACA); Mrs Carol Klinfält, Consumer Representative, and Professor Nico van Zandwijk, Director, ADRI.

Mrs Yvonne Tully visits ADRI for Asbestos Awareness Week



Mrs Yvonne Tully, Professor Nico van Zandwijk and Dr Michaela Kirchner

Dr Michaela Kirschner is co-supported by the Swift Family Bequest & Mr Jim Tully Fellowship. Dr Kirschner's main research focus is to investigate the detection of microRNAs in the blood of mesothelioma patients which may accelerate the diagnostic process. - see ADRI researchers raise hopes for easier and earlier detection of mesothelioma p2. Through the support of the Swift Family Bequest & Mr Jim Tully this work was made possible. It was a real pleasure for the team at the ADRI to finally meet Mrs Yvonne Tully who attended the launch of Asbestos Awareness Week in November 2011.

In a recent episode of Channel Nine's *The Block*, asbestos awareness has been raised nationally. On *The Block* each house was thoroughly audited for hazardous material by an independent hazardous material and monitoring contractor. Julian Branchley, *The Block* architect, said: "The individual results varied from house to house with each one having minor asbestos installations present, as is normal and expected for any older house." On Ninemsn Scott Cam said: "Asbestos is an absolute killer and if you're thinking of renovating make sure you get your place checked out by professionals," "If you do find something, make sure those professionals remove it."



