

FIBRES

Connecting ADRI Friends to Research

SPRING 2013

ASBESTOS DISEASES RESEARCH INSTITUTE

An extraordinarily generous bequest to support a clinical trial based on ADRI research

The 31st July 2013 was a very special day for the ADRI. The Federal Minister for Health and Medical Research, the Hon Tanya Plibersek, and a number of other VIPs were here for the announcement of the Andrew Lloyd bequest in support of a clinical trial at the ADRI. Andrew Lloyd passed away on the 15th August 2011 after battling with malignant mesothelioma and before his death he directed through his Last Will and Testament a bequest to the Asbestos Diseases Research Institute.



Ms Sylvia Kidziak AM (ADRF Deputy Chair), Mr John O'Meally AM RFD (ADRF Chair), Mr John Jarratt (Asbestos Awareness Ambassador), the former Federal Minister for Health and Medical Research, the Hon. Tanya Plibersek, Mr Don Burke (Asbestos Awareness Ambassador), Professor Nico van Zandwijk (ADRI Director), Mrs Carol Klintfalt (Asbestos Awareness Campaigner), Ms Xiao Fang Gao (Andrew Lloyd's partner), Professor Christopher Lloyd (Andrew Lloyd's brother), Ms Jennie Lloyd (Andrew Lloyd's sister) and Mr Armando Gardiman (Partner, Turner Freeman) (LtoR).

His partner Xiao Fang Gao, brother Professor Christopher Lloyd, sister Jennie Lloyd, friend Mr Greg Newbury and family friend Mr Patrick Timbs support Andrew's extraordinary generosity. When Professor Lloyd handed Professor van Zandwijk the cheque for \$1.2 m there was a stunned silence amongst the audience. No one had expected such extraordinary generosity. This bequest will now allow ADRI to continue one of its important missions to provide better treatment options for patients with asbestos cancers.

Professor van Zandwijk said a three year study at the ADRI to characterise the gene expression in mesothelioma revealed that a particular family of microRNAs involved in the regulation of cell and tumour biology, was almost absent. This family of microRNAs is well known for its involvement in the biology of other cancers, but this was the first time it was linked to mesothelioma. When levels of the microRNA family were returned to normal in tumour cell lines by adding synthetic versions of microRNA (TargomiR), the growth of tumour cells were inhibited but normal cells remained unaffected. In experimental animals the growth of implanted mesotheliomas was stopped by TargomiRs and this approach will soon be tested in patients. A protocol for the first experimentation in patients has been developed and it is expected that this trial, testing optimal dose and safety of the TargomiRs, will start before the end of this year.

ADRI'S LATEST PUBLICATIONS



Dr Yuen Yee Cheng

Cheng YY, Kirschner MB, Cheng NC, Gattani S, Klebe S, Edelman JJB, Vallely MP, McCaughan BC, Jin HC, van Zandwijk N, Reid G. ZIC1 is silenced and has tumour suppressor function in malignant pleural mesothelioma. *Journal of Thoracic Oncology*, 2013 *accepted*.

This article describes how it is well known that inactivation (or silencing) of tumour suppressor genes through shutting down regulatory regions by a process known as DNA hypermethylation plays a crucial role in the development of malignant pleural mesothelioma (MPM). ZIC1, a tumour suppressor gene active in gastric and colorectal cancer, was also present at high levels in normal mesothelial cells. In contrast, ZIC1 was not expressed in MPM cell lines. This study investigated the functional role of ZIC1 in MPM. ADRI's results indicated that ZIC1 also acts as a functional tumour suppressor in MPM and is closely linked with the expression of certain microRNAs. MicroRNA-23a in particular was present at higher levels in the tumours from patients showing shorter survival. When ZIC1 was reintroduced in MPM cells it caused suppression of microRNA-23a expression. These findings have helped us to better understand the molecular background of MPM and may lead to new treatment approaches in the future.



Dr Glen Reid

Reid G, Pel M, Kirschner MB, Cheng YY, Mugridge N, Weiss J, Williams M, Wright C, Edelman JJB, Vallely MP, McCaughan BC, Klebe S, Brahmabhatt H, MacDiarmid J, van Zandwijk N. Restoring expression of miR-16: a novel approach to therapy for malignant pleural mesothelioma. *Annals Oncology*, 2013 *accepted*.

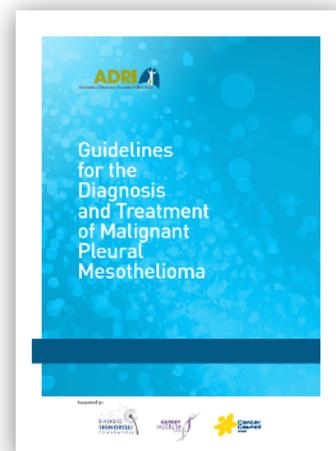
This journal article describes the experimental background of the new treatment approach for malignant pleural mesothelioma (MPM) with synthetic microRNA as mentioned on page one of this newsletter. Cell culture and experimental animal experiments show clearly how effective the reconstitution of the microRNA-16 family is.



Ms Casey Wright

Wright CM, Kirschner MB, Cheng YY, O'Byrne KJ, Grey SG, Schelch K, Hoda MA, Klebe S, McCaughan BC, van Zandwijk N, Reid G. Long non coding RNAs (lncRNAs) are dysregulated in malignant pleural mesothelioma (MPM). *PLoS One*. 2013 Aug 19;8(8):e70940. doi: 10.1371/journal.pone.0070940.

In this publication Ms Wright explores the role of a new class of RNAs (lncRNAs) as potential prognostic and diagnostic markers in MPM. There is growing evidence that lncRNAs play a vital role in cancer biology. Her research has shown that some of these lncRNAs may predict prognosis. In addition, a panel of six lncRNAs were able to correctly differentiate between MPM tissue and the normal tissue, covering the thoracic cavities. Little is known about the actual function of the lncRNAs and further ADRI research will focus on this aspect.



The Guidelines for the Diagnosis and Treatment of Malignant Pleural Mesothelioma were approved by National Health and Medical Research Council (NHMRC) on the 2nd of July 2013. These Guidelines were developed by a team of experts under the auspices of ADRI. They are the result of a systematic review of the world literature on malignant pleural mesothelioma using NHMRC methodology and all recommendations for the management of this asbestos-related malignancy have been made on the basis of the scientific evidence available. The Guidelines are intended to be a source of reference for health practitioners. They will assist health practitioners:

- To make adequate steps in the diagnostic process, and
- To identify the prerequisites needed to draft an optimal treatment proposal.

The development of these Guidelines was made possible by a generous donation from the Biaggio Signorelli Foundation; a Cancer Institute NSW grant and a contribution from Cancer Council NSW. Publication of the Guidelines has been made possible by a grant from Comcare's Asbestos Innovation Fund. Consumer guidelines for people with malignant mesothelioma and their carers will now be written based on the evidence gleaned from the development of these Guidelines.

Jocelyn McLean awarded

'Excellence in Partnerships with Patients, Families and Carers Award'



Jocelyn receiving her award from the Hon Jillian Skinner, Minister for Health, and Minister for Medical Research

Jocelyn McLean, a specialist lung nurse and integral member of the Sydney Cardiothoracic Surgeons group, and The Baird Institute provides post-operative support for mesothelioma patients undergoing an extrapleural pneumonectomy (EPP) and their families. The main purpose of these "get-togethers" for patients and their families has been to provide support, friendship and information – relating to both the surgery these patients have experienced, as well as to assist and support their general quality of life.

In recognition of her tireless dedication and wonderful work Jocelyn has been awarded the NSW Health Excellence in Nursing and Midwifery Award in the 'Excellence in Partnerships with Patients, Families and Carers Award' category.

Nurses and midwives make a difference to the lives of patients or clients and their families as part of their normal working day. The 2013 New South Wales Health Inaugural Excellence in Nursing and Midwifery Awards recognise and publicly acknowledge the significant contribution of nurses and midwives to improving health outcomes of the community through their professional practice and commitment to the nursing and midwifery professions.

Jocelyn has also participated in the development of the Guidelines for the Diagnosis and Treatment of Malignant Pleural Mesothelioma lending her expertise as co-chair of the Models of Care group.



This November, **Blue Lamington Drives** are helping raise awareness of the dangers of asbestos when renovating or maintaining homes while raising vital funds to support ADRI - find us on  or bluelamington.com

'BETTY'

ADRI'S MODEL HOUSE

To raise awareness of the dangers of asbestos in our environment, 'Betty' a purpose built model house designed to demonstrate areas in the home where asbestos might be found was launched during Asbestos Awareness Week in November 2012 by the Asbestos Education Committee. Since her launch Geoff Wicks, a retired engineer and DIY'er, and his wife Karen have generously volunteered as Betty's curators and chauffeurs. They have travelled many thousands of kilometres around NSW including the Hunter, New England, Mid-North Coast, Central West and the Orana regions of NSW. Karen and Geoff have taken on this new role in their stride, engaging the media, local council representatives and the public whilst demonstrating Betty at each of the various events, tirelessly answering questions and providing information to ensure the asbestos awareness messages have been imparted to the community. They have volunteered over 900 hours, educated more than 20,000 people across NSW and if by raising awareness of the dangers of asbestos when renovating or maintaining the home they might save just one life, this campaign is a success. Updates on Betty can be found on her Facebook page <https://www.facebook.com/BettytheADRIhouse> or you can visit the AsbestosAwareness.com.au website.



Geoff and Karen Wicks with Betty, ADRI's model house on tour in the Central West and the Orana regions of NSW

