Successful Scholar

Scholarship leads to research breakthrough

Dr Zoe Wainer has been a key researcher in the latest breakthrough for lung cancer.

One of the most significant advances in the treatment of lung cancer – made via an international collaboration between oncologists, surgeons and researchers across 15 institutions including Melbourne and based at the Max Planck Institute in Cologne – could have been long delayed without the support of the Australian surgical community, according to team member Dr Zoe Wainer.

Dr Wainer has spent the past two years collecting clinical data and tumour tissue to add to those collected by researchers at the Macquarie University in Sydney, the second largest number of samples to the international collection stored and studied there which now stands at 1,800.

In the absence of other State or Federal funding, the scholarships allowed Dr Wainer to become the only member of the five-person Melbourne team able to work full-time on the project, which now holds the prospect of a drug treatment capable of shrinking certain lung tumours.

“This support from our colleagues and the College has been absolutely vital in advancing this research given that we have been working on a shoestring budget in the absence of government funding,” she said.

“It has also been found that there is an altered expression of the FGFR-1 gene in pancreatic, ovarian, testicular, breast and certain head and neck cancers and an over-expression found in particular gastric and prostate cancers, so the ramifications of this work in our understanding of the drivers of tumour cell multiplication could be considerable.”

“Once in a lifetime research

Dr Wainer is undertaking her research as part of a PhD through the Department of Surgery at St Vincent’s Hospital and the University of Melbourne under the supervision of Associate Professor Gavin Wright and Medical Oncologist Dr Ben Solomon from the Peter MacCallum Institute.

“This work is not the research I set out to do, which was initially aimed at understanding the pattern of lung cancer to see if we could identify which tumours were more or less aggressive, this could then allow us to better apply optimal treatment options between surgery, chemotherapy and radiotherapy,” she said.

However, the opportunity arose to work on the FGFR-1 gene analysis which seemed both then, and now, a once-in-a-lifetime, profoundly-rewarding experience.

“The collaboration with the Max Planck Institute made it very exciting work. They have a dynamic research team which provided a great intellectual environment and the opportunity to work there was wonderful.”

Dr Wainer said she planned to return to Cologne later this year to study the molecular data collected since her last visit, with a particular focus on understanding the differing patterns of lung cancers now showing up between men and women.

She said that while smoking trends could explain the increase in the incidence of lung cancer in women, there may be significant biological differences in the disease process between the two sexes.

“Young women began smoking later than men, only a few decades ago, and that is now showing up in the development of certain lung cancers but we are also seeing an increasing incidence of women developing lung cancer who haven’t smoked at all,” Dr Wainer said.

“At the same time, women are still living longer than men, even when we control for smoking and age-related diseases, this points to an interesting anomaly which I plan to investigate this year.”

Alongside all her research and cardiothoracic studies, Dr Wainer has continued to privately assist Associate Professor Wright while also contributing her surgical skills to international aid projects.

She has participated in three cardiothoracic team visits organised through the College to East Timor as well as travelling to Tonga twice and Fiji as part of the Operation Open Heart aid program run through the Sydney Adventist Hospital.

The daughter of public health reformers, the late Dr Bertram Wainer and his wife Jo, Dr Zoe Wainer also has a strong commitment to public health.

For the past three years she has been a Director on the board of the Victorian Branch of the AMA with a particular interest in public health and the health and well-being of junior doctors.

“My parents have always been an inspiration to me and informed my values in medicine and I think the AMA plays an important role in matters of public health,” she said.

“I believe that happy and healthy doctors make for better patient outcomes and have been looking into the workplace factors that can cause stress to our junior doctors as part of the doctor safety into account.”

With Karen Murphy