MMP Scientific Exchange Meeting

– 16th November 2016

Numerous patients, clinicians, researchers, government and pharmaceutical representatives attended MMP's meeting at the Alfred AMREP Lecture Theatre. Everyone enjoyed catching up for a pre-lecture drink and were keen to hear the latest from our eminent professors and their researcher colleagues.

Professor Grant McArthur opened the meeting and presented the audience with an update on all things MMP. The project has had a fantastic year with lots of successes in the lab and the clinic. Project numbers and publications, including collaborative publications, have increased each year and 99% of our participants have been included in one or more MMP research projects.

Early in 2016 MMP contributed clinical data from 1409 of our participants to the international review of the melanoma staging. The 8th edition of the AJCC (American Joint Committee on Cancer) Staging Manual will be signed off for international use in the near future. Professor McArthur outlined the main changes to melanoma staging which should assist clinicians in determining the best treatment options for each individual patient.

Everyone enjoyed Professor John Kelly's talk titled 'In Situ Melanoma – Holy Grail or Blind Alley.' We learnt that in situ lesions were increasing in the population but were not life threatening if addressed early. They did however increase your risk factor for getting a subsequent skin cancer and so he advised affected people to be more vigilant regarding skin checks. Most in situ lesions are caused by exposure to UV from the sun but some are not. Acral Lentiginous melanomas, which develop on the palms and soles or the nail beds, are not induced by UV radiation. Dermatologists use photos and dermatoscopes to monitor changes in old and new lesions. Dermatoscopes are hand held microscopes that allow the doctor to look into the top layers of the skin to see if there are any specific changes happening that might indicate if a biopsy should be done. Professor Kelly began using a prototype dermatoscope in 1989 but widespread use did not really happen until 2000. The advances in such technologies may also be the reason why there is such an increase in the number of in situ lesions. Unfortunately the increase in the number of lesions being detected early is not translating to a decrease in deaths from melanoma.

Professor Jonathan Cebon told the story of a patient that was in dire circumstances with his melanoma, that needed a BRAF test asap so he could access treatment straight away. He did not have time to wait days for a biopsy and pathology. MMP researchers at the Olivia Newton-John Cancer Research Institute were able to take a blood sample, look for the DNA that the melanoma tumour had shed into the patient's blood, and do a BRAF mutation test. The results said that the patient had a BRAF mutation and was therefore able to start on targeted therapy straight away. Professor Cebon reported that the man had an excellent and ongoing response to the treatment.

The laboratory test described is known as a 'liquid biospy' and was developed collaboratively by MMP researchers in response to patient wishes. It is available for late stage patients and is just as accurate as tissue testing. The test has been NATA accredited at the ONJCRI and is to be officially announced by the Victorian Minister for Health at a press conference on Friday 18th November. Ongoing research will determine if the liquid biopsy can be used for the routine monitoring of patients in the future.

Our vignette series, re-labelled research speed dating, was again a success giving our audience a snap shot of the breadth of activity happening in MMP. Mr Paul White, Chair of the MMP Consumer Reference Group, began with an overview of what consumer engagement has meant for MMP and how much the project has achieved by the participation of so many individuals in the program. "MMP cannot do what we do without each and every one contributing. This is a great model capitalising on sharing, respect and genuine involvement."

Dr Andreas Behren PhD, from the ONJCRI, described some of the complicated interactions between melanomas and the immune system. He showed us some beautiful coloured pictures of different types of immune cells located inside primary melanoma tissue samples. Andreas is looking for patterns that might tell us which patients have a higher risk of getting metastases.

Dr Lorey Smith PhD, from Peter Mac, told us how melanoma loves sugar (glucose) and how BRAF inhibitors stop tumours from getting glucose and slow their growth. When a patients' disease progresses whilst on BRAF drugs many believe it is because the tumour has found a new way to get sugar. Lorey is studying the genes that influence the glucose metabolic pathway. It may be possible to block a section of the glucose pathway to make BRAF treatments more effective.

Dr Katherine Woods PhD, from ONJCRI, is looking at how melanomas evade being killed by the immune systems T cells. Katherine has found that inflamed melanoma tumours possess an immunoproteosome (Ip) that knows how to hide melanoma cells from our immune cells. The Ip cell machinery processes proteins as normal but instead of putting matching protein tags (epitopes) on the outside of the cell it makes different tags which can't be recognised and therefore eliminated by our immune cells. If we can understand this process more we may be able to find out why only some people respond to the new immune therapy drugs or possibly find better treatments. Katherine was recently acknowledged by a leading journal for her excellent manuscript on this topic.

Dr Nikki Adler is a dermatology trainee at the Alfred undertaking a MD. Nikki is interrogating the MMP clinical data to determine if cutaneous melanomas that progress have specific features that might help doctors identify at risk patients. Approximately 20% of the MMP patients with cutaneous primaries have progressed. Nikki is looking at all of the available information to see if there is a pattern to this phenomenon.

Dr Annie Wong is an oncologist at Peter Mac currently undertaking her PhD. Annie would like to identify 'the right immunotherapy treatment for the right patient'. She has been using new technologies such as PET imaging and immunohistochemistry to look for novel biomarkers. Annie is

also interested in the patients experience regarding immune therapy treatments. She is using Quality of Life questionnaires to evaluate patient decisions and responses.

The evening was a great success and generated lots of discussion and some awesome questions from our audience. Most of the presentations from the Scientific Exchange Meeting are co-located on the MMP website with this report. Many of them have been edited to remove sensitive information and specific patient data.

If you have any specific questions for our scientists or would like to know more about our consumer activities please email Sonia Mailer on sonia.mailer@petermac.org Hope to see you at the next MMP event.