



RESEARCH UPDATE

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New Hope for Breast Cancers Spread to the Bone

While a new therapeutic treatment in the United States is currently in stage three clinical trials for treating pancreatic cancer, local research is investigating how this new drug could help patients living with breast cancer that has spread to the bone.

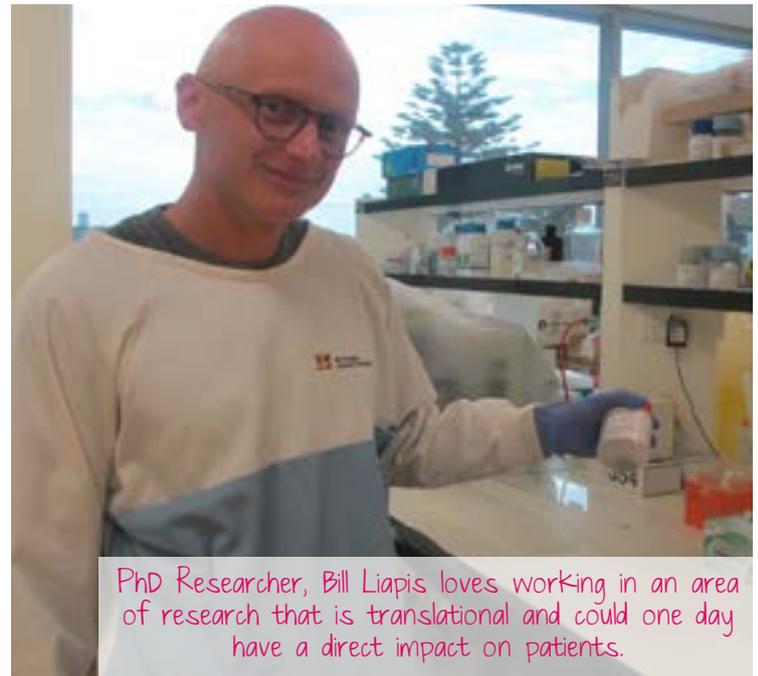
Vasilios (Bill) Liapis, PhD student at the Basil Hetzel Research Institute for Translational Health Research (BHI), is excited to be working in such a new and important area, assessing this drug's impact on cancers within the bone. He is hopeful that his findings will enable this drug to treat and potentially cure patients in the future.

"The drug, known as Evofosfamide, works specifically under hypoxic conditions, which is where the tumour cells are deprived of oxygen," Bill said.

"I've been looking at osteosarcoma, which is a cancer originating in the bone, but I'm also looking at breast cancer. While the treatment for the early stages of breast cancer have improved greatly, when it begins to spread to areas such as the bone, treatment becomes very difficult.

"That's where I think this drug may play a key role in treating these hypoxic regions in the bone."

Starting work with Professor Andreas Evdokiou, Head of the Breast Cancer Research Unit at the BHI, as a research assistant 13 years ago, Bill is very thankful



PhD Researcher, Bill Liapis loves working in an area of research that is translational and could one day have a direct impact on patients.

that he finally took the plunge and started his PhD, particularly in such an exciting area of research.

"What's really great about this drug is that it comes with fewer side effects than some treatments currently used for these types of cancers," Bill said.

"It's made up of two molecules which seek out the hypoxic regions in the body, which is quite often the cancer itself, and kills the cells – so it's more selective."

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Heartbreaking Loss Inspires Support

To lose a family member to breast cancer is devastating. But sadly for Carol Denehy she not only lost her mother but also her half-sister to the disease.

"It's caused me a great deal of heartache in my life, both from my family and from the friends in my life who've had breast cancer," Carol said.

Carol is a part of ABCR's Community of Care – a special group of people who regularly support breast cancer research.

Cancer, particularly breast cancer, has deeply affected Carol's life. While her mother and sister have passed away from breast cancer, her half-brother has also been previously diagnosed with the disease, her husband passed away in 2007 from liver cancer and her mother-in-law has been diagnosed with ovarian cancer.



Carol (right) with her brother and half-sister.

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Heartbreaking Loss Inspires Support cont'd

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Carol developed very large, cystic breasts as a teenager, the nature of which made it difficult to perform self-examinations for breast cancer. When she immigrated to Australia in 1991, she had surgery to reduce their size and remove some of the tissue. She hopes that will save her from the same fate as her mother and sister.

"I was told I was high-risk and I was worried because I couldn't easily do a self-examination. I was terrified that something was going to happen to me," she said.

"I have a lot of friends who've had breast cancer and are



Carol's Mother (pictured above) and her sister will be forever in her heart.

survivors. I know you can survive and have a good life afterwards but the fact that I've had these two deaths in my family overwhelms me."

Diagnosed in early 1981, Carol's mother had a mastectomy and underwent radiation that May. In July she was told that she had a "clean bill of health".

A month later, after she developed a persistent cough, she went back to hospital only to be told that the cancer had spread from her breast to her lungs. She died only three weeks later.

Her sister was diagnosed in 2008 when she was 72. Like their mother, she had a mastectomy and radiation treatment.

Unfortunately, it had already spread to her lymph nodes, so she then had chemotherapy and radiotherapy for that as well.

Sadly, she then developed acute myeloid lymphoma, a potential side effect of the treatment and lost her life to cancer shortly after.

"My sister was a force of nature. But the effort in fighting first the cancer and then the leukaemia wore her down and she had no more strength to go on." Carol said.

Both Carol's mother and sister were 74 when they passed away.

At 66, Carol is more than concerned about her chances.

"I'm now 66 and 74 doesn't feel that far away. I hope that trend doesn't continue..."

"I think cancer is one of the things that the light is brightest on and with the right types of research they are going to find cures for various kinds of cancer, maybe within my lifetime."

"I support ABCR because I really hope the researchers find a cure so that other people don't have to go through what I have".

New Hope for Breast Cancers Spread to the Bone cont'd

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Combined with Bill's impressive ability to present his findings, the research has been proven to be of high interest to the research community with Bill recently winning the PhD Poster Award at the Australian Society for Medical Research National Scientific Conference as well as the Florey International Postgraduate Research Conference in 2014.

"It was a really great feeling getting these two awards. It's proven my ability to present and boosted my confidence," he said.

"It's helped to be able to conduct my research at the BHI - it's a really supportive environment working with some amazing scientists, which builds you up and drives you to do bigger and better things!

"In the lab I always try to look at the big picture and that helps drive me a lot. Rather than just seeing some cells and treating them with this drug, I remind myself that this is something really new with enormous potential.



Bill Liapis says that conducting his research at the BHI helps to motivate him to succeed.

"The fact that my research has the ability to be so translational and one day make an impact in the lives of those living with breast cancer or other types of cancers, that's a pretty amazing feeling."

Investigating a Link Between Breast Density and Breast Cancer

Based at the Basil Hetzel Institute for Translational Health Research, PhD candidate Maddison Archer, is excited to be part of an important research project developing a link between mammographic breast density and breast cancer.



Maddison Archer is hoping her PhD research will help to limit the risk of breast cancer all together.

What is breast density?

When women have a mammogram their breast tissue will appear white and black in different areas, with a higher percentage of a white appearance indicating higher breast density.

"About 30 per cent of breast cancer diagnoses can be attributed to mammographic density," Maddison said.

Until recently there has been little research into what causes breast density and why it increases a woman's susceptibility to breast cancer.

"Whilst there has been research into breast density over the past 40 years, this has mostly investigated the epidemiology of density, rather than looking at why it is occurring.

Giving Back to Help Others – Sandra's Story

Two years on from her breast cancer diagnosis, and still larger than life Sandra Kapellos is giving back to Australian Breast Cancer Research (ABCR) through her fundraiser Café De Cure.

On Sunday, 2 August Sandra hosted Café De Cure at Nazareth Catholic College in Adelaide, a morning tea where a third of funds were donated to ABCR along with



Sandra and Dr Mark DeNichilo from the BHI.

other research areas close to Sandra's heart.

Thrilled with the event's success Sandra raised over \$1,200 towards Prof Andreas Evdokios' research into secondary breast cancer.

With the help of her cousin who runs the Nazareth High School Cafeteria Sandra was able to see her fundraising vision come to life.

"This was me giving back, I wanted to say thank you to everyone from Nazareth for their support," Sandra said.

"Mammographic density is a really strong risk factor for breast cancer - this is a new and very important area of research."

The research

By analysing breast tissue donated by patients from The Queen Elizabeth Hospital, Maddison and her team aim to identify why some women have higher levels of breast density than others.

"Once we have identified which women have high or low density we look further into the biology of their tissue to see if there is a difference between the two," Maddison said.

"We want to know if women with increased breast density have an altered immune cell population which may be causing their breasts to be denser and result in an increased risk of breast cancer."

From these findings, Maddison hopes to discover a way to prevent density from increasing over time and consequently lower the risk of breast cancer.

"At this stage there is little known about the biology and we believe there might be something women can do to prevent this density from increasing."

What's next?

Having always had an interest in the immune system, Maddison is thrilled to combine her skills with a research project that has the potential to save the lives of countless women.

"Everyone knows someone who has been affected by breast cancer - it is a big issue facing females."

"We are hoping our discoveries will form a stepping stone for future research to limit the risk of breast cancer all together."

It's safe to say the event was bigger than she ever imagined; attracting over 70 people who were all encouraged to bring photos of a loved one touched by cancer.

By raffling off items donated by local businesses, door prizes and hosting pop up stalls Sandra raised double her original target.

"I am very excited and thankful - it was such a great day!"

Recently having a friend diagnosed with secondary breast cancer Sandra wanted to give back through ABCR to support Prof Evdokios' research. Dr Mark DeNichilo from the team was able to join the event and speak about the team's research.

"Secondary breast cancer metastasises to the bone and can be life threatening," Sandra said.

Now two years cancer free Sandra is a passionate advocate for raising women's awareness that they are never too young to have a mammogram.

"I keep saying it doesn't matter if you are 30 or 40 - if you have an inkling have the breast screening done."

Read more of Sandra's story at abcr.com.au.

A Unique Fundraiser for Breast Cancer

The inaugural 'Burgers for Boobs' was held in Sydney this July, with part proceeds going towards vital medical research funded by ABCR.

Heading up the event, Naby Mariyam was driven to do something special after finding out her mum who lives in the Maldives and had beaten breast cancer five years ago, was re-diagnosed.

'Burgers for Boobs' was organised with the local Fatties Burger Appreciation Society (#FBAS) and held on 12 July at Harry Harpoon's restaurant in Surry Hills to raise money for both Naby's mum's treatment costs and research into breast cancer.

When Naby left her family and moved to Australia 10 years ago she was not expecting to watch on helplessly as her mum commuted to and from Malaysia for breast cancer treatment.

"When my mum called me and told me she had breast cancer, I didn't know how to react. Everyone is so scared of the word cancer," Naby said.

After beating the cancer, Naby's mum went travelling and became a new grandmother, until a routine check-up confirmed her cancer was back.

"It was upsetting that I couldn't do anything, that I had to be here and mum wasn't with me. I decided I wanted to raise money for her."

Attracting over 250 people, Naby had three chefs design their own burgers for the event and raffled off a trip to

the Maldives.

"I'm so thankful to my friends from #FBAS; Chris, Ani and Brendon and the brilliant chefs – Sarah from Bar Luca, Josh from #burgersbyjosh, Charles from Chef's Kitchen and Danno's in Dee Why."

Overwhelmed by people's support, she is excited to donate around \$750 of the proceeds to ABCR.

"I wanted to invest the money into research, specifically into finding an alternative treatment to chemotherapy, because it was so harsh on mum's body," Naby said.

"I thought ABCR was the best charity to invest the funds since it is focused solely on research. I was content the money donated was going to a very good cause."

Naby's lovely mum has begun chemotherapy treatment in Malaysia and doctors are very happy with her progress.



Naby and her friend Steve who helped with the event.

A Raffle to Support Breast Cancer Research

One lucky fan has walked away with their very own Adelaide Crows themed fridge designed by Riverland Sign Writer Mark Lewis who has donated the funds raised through a raffle to ABCR.

Signed by all current 2015 Adelaide Crows Senior players, the fridge proved to be a hot commodity and on Saturday the 30th of August was auctioned off for a whopping \$1815 all going towards life changing breast cancer research.

Proud new owners of the refurbished fridge Vince and Jennifer Birt were ecstatic to receive the winning phone call, having been proud club members for many years.

Fridge designer Mark, whose mother-in-law has been affected by breast cancer, wanted to donate the funds to a cause very close to his heart.

"My mother-in-law has just recently completed her third round of chemotherapy for breast cancer.

"She is the reason I wanted to get involved and give back to research."

With his mother-in-law now making a full recovery, Mark is passionate about donating the funds to a local organisation like ABCR that donates directly towards

cures and treatments for breast cancer.

"I am very happy to support such a good cause."

ABCR would like to thank Mark for all his hard work and everyone who bought tickets in the raffle!



Vince and Jennifer Birt - now the proud owners of the 2015 Adelaide Crows Fridge. Proceeds supported vital medical research.

Contact Us



Head Office:
08 8445 2453

60 Woodville Rd, Woodville, SA, 5011
contactus@abcr.com.au abcr.com.au