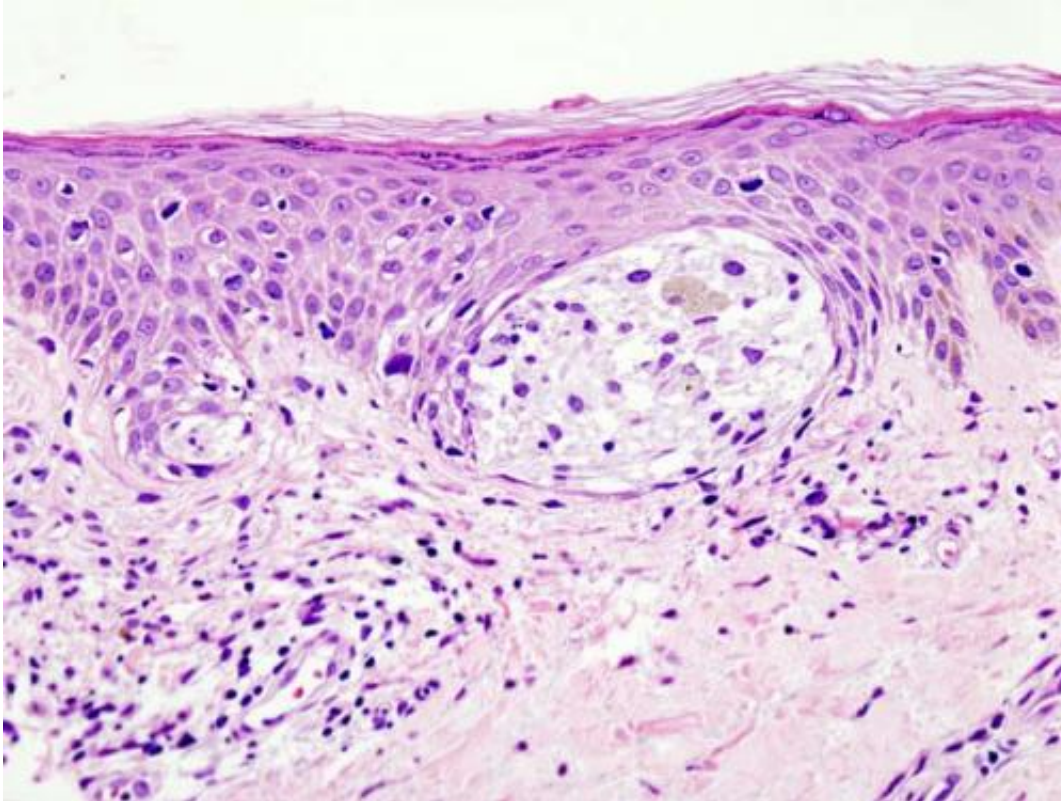


A new way to kill melanoma skin cancers

August 4 2015, by John Merriman, The Lead



Melanoma in skin biopsy with H&E stain—this case may represent superficial spreading melanoma. Credit: Wikipedia/CC BY-SA 3.0

Scientists are adding new DNA to the cells of patients in a world-first treatment to attack and kill melanoma skin cancers.

The new cell and gene therapy clinical trials have commenced in Adelaide, South Australia, led by Professor Michael Brown, Director of

the Cancer Clinical Trials Unit at the Royal Adelaide Hospital and Research Officer Dr Tessa Gargett.

"Our own [immune system](#) doesn't usually recognise tumours in our body as dangerous, because they are made from of our own bodily materials," Dr Gargett said.

"So our white [blood cells](#) just pass by the tumours instead of attacking them as they would a foreign object – like a virus.

"We are reprogramming the DNA in patient's [white blood cells](#) – called T cells - to identify the tumour as dangerous and hopefully destroy it."

Those diagnosed with advanced melanomas typically don't live longer than five years without treatments such as targeted therapy or immunotherapy.

Dr Gargett said scientists based in Houston, Texas, USA cut and stitched DNA using mice as a template to copy because their [immune cells](#) instantly recognise tumours and attack them.

"Once this step is performed in our laboratory, the new DNA becomes part of the patient's own DNA in his or her T Cells," she said.

"Then we used special growth factors to make these gene-modified T cells expand in number in the laboratory. These patient T cells are stored and tested before they are deemed safe to return to the patient."

After the gene-modified T [cells](#) are infused via a vein back into patients, the patients are monitored every week for six weeks and then every four months for a year. So far the results have shown that the [treatment](#) is safe."

The idea for the new treatment approach came after Professor Michael Brown observed similar techniques being used in Houston, for childhood cancer called neuroblastoma.

"It is an extremely complicated procedure and in the past we simply haven't had the technology to attempt this," Dr Gargett said.

"We plan to expand the trial to include about 12 [patients](#) and monitor their responses which will take about two to three years to gain the data we need.

"It is definitely ground breaking research and provides a different approach to treating tumours in which the patient's own immune system is helped to fight cancer.

"Every treatment is completely personalised to the individual patient and represents a new phase in cancer treatment."

Source: [The Lead](#)

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