MedicalXpress

Scientists learn more about rare skin cancer that killed Bob Marley

August 20 2014

Cancer Research UK scientists have discovered that acral melanomas – the rare type of skin cancer that caused reggae musician Bob Marley's death – are genetically distinct from other more common types of skin cancer, according to a study (link is external) published in the journal *Pigment Cell & Melanoma Research*.

Acral melanoma most often affects the palms of the hands, soles of the feet, nail-beds and other hairless parts of the skin. Unlike other more

common types of melanoma, it's not caused by UV damage from the sun.

The team, from the Cancer Research UK Manchester Institute (link is external) at The University of Manchester (link is external), sequenced the tumours of five patients with acral melanoma and combined this with data from three other patients. They then compared the pattern of genetic faults found in these eight tumours with that of more common types of skin cancer.

This revealed that the type of DNA damage found in acral melanoma is very different from other types of skin cancer. For example in acral melanomas, it was much more common to find large chunks of the DNA that had broken off and reattached elsewhere, as opposed to the smaller DNA changes typically found in more common types of skin cancer.

Study leader Professor Richard Marais, director of the Cancer Research UK Manchester Institute, at The University of Manchester, said: "Too much UV radiation from the sun or sunbeds can lead to a build-up of DNA damage that increases skin cancer risk. But acral skin cancer is different because the gene faults that drive it aren't caused by UV damage. Pinpointing these faults is a major step towards understanding what causes this unique form of cancer, and how it can best be treated."

Nell Barrie, senior science information manager at Cancer Research UK, said: "We hope that understanding the faults that drive acral melanoma will unlock better ways of treating this rare yet aggressive type of skin cancer. Our scientists are striving to improve survival for all cancer patients, including those with rarer forms of the disease.

"And this is why skin cancer will be a key research focus for the Manchester Cancer Research Centre."

More information: Furney S. et al. The mutational burden of acral melanoma revealed by whole genome sequencing and comparative analysis, Pigment cell and melanoma research (2014). DOI: 10.1111/pcmr.12279