Hep B Research Offers Insights Into Australia's Human Origins

Australian scientists studying the virus have tracked ancient human migration patterns.

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Recent research on the DNA of hepatitis B virus (HBV) has bought us one step closer to understanding when it is that mainland Aboriginals separated from other early humans and entered Australia, Phys.org reports.

Published in Molecular Biology and Evolution, the new study used current and ancient hepatitis B genome sequences to deduce ancient human population movements into Australia. Their findings suggest HBV first entered the continent with native Aboriginal people over 51,000 years ago.

The discovery was made as an offshoot of a hepatitis B study among indigenous Australians, who have a much higher rate of HBV and HBV-related morbidity than the rest of the country's population. The research team collected hepatitis B samples from people living in more than 30 communities across Australia and discovered a strain of the virus called HBV/C4 that's unique to Aboriginal people.

For the study, scientists used evolutionary analyses of HBV/C4 alongside archaeological fossil and human genome data to trace the movement of the people who have carried the liver virus over many generations. They found that a precursor of the strain first entered Australia 51,000 years ago, before branching out into two groups—one centered in the northwest of Australia's Northern Territory and another in the region's central/eastern area. This viral divide also mirrors the two main divisions of Aboriginal Australian languages spoken in Australia today.

Study authors say the discovery has generated great interest from Aboriginal research partners and patients, helping to both draw awareness to HBV in Aboriginal communities and reduce stigma around the virus.

"It is good for us to learn about this and for us not to be silent or feel shame," said senior Aboriginal health practitioner Sarah Bukulatjpi, a coauthor on the paper. "The fact the virus is so old helps add to evidence that Aboriginal people have been in Australia for a long, long time."

Click here to read more about the fascinating ancient history of the hepatitis B virus.

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