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Original Article

Elevated sister chromatid exchange frequencies in New Zealand Vietnam War veterans  
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Abstract.

From July 1965 until November 1971, New Zealand Defence Force Personnel fought in the Vietnam War. During this time more than 76,500,000 litres of phenoxylic herbicides were sprayed over parts of Southern Vietnam and Laos, the most common being known as 'Agent Orange'. The current study aimed to ascertain whether or not New Zealand Vietnam War veterans show evidence of genetic disturbance arising as a consequence of their now confirmed exposure to these defoliants. A sample group of 24 New Zealand Vietnam War veterans and 23 control volunteers were compared using an SCE (sister chromatid exchange) analysis. The results from the SCE study show a highly significant difference ( $P < 0.001$ ) between the mean of the experimental group (11.05) and the mean of a matched control group (8.18). The experimental group also has an exceptionally high proportion of HFCs (cells with high SCE frequencies) above the 95th percentile compared to the controls (11.0 and 0.07%, respectively). We conclude that the New Zealand Vietnam War veterans studied here were exposed to a clastogenic substance(s) which continues to exert an observable genetic effect today, and suggest that this is attributable to their service in Vietnam.

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