

# Medical Update Memo

July 6, 2009

Parent-of-origin effect in multiple sclerosis. Observations from interracial matings

## Summary

Multiple sclerosis (MS) is a complex neurologic disease with a striking geographical distribution. In Canada, prevalence is high in Caucasians of Northern European ancestry and uncommon in North American Aboriginals, many of whom now have Caucasian admixture. The population-based Canadian Collaborative Project on the Genetic Susceptibility to MS (supported by the MS Society of Canada) provided the characteristics of 58 individuals with 1 Caucasian and 1 North American Aboriginal parent from a database of 30,000 MS index cases. **Neurology. 2009 Jun 10 (E-pub ahead of print)**

## Details

Multiple sclerosis (MS) is a complex neurologic disease with a striking geographical distribution. It is thought that both environment and genes play a role in this geographical distribution. The authors found that among those siblings with MS born in families where the mother was Caucasian and the father was North American Aboriginal, the proportion of females with MS was higher than among those people with MS born from a Caucasian father and a North American Aboriginal mother. Moreover, the risk of recurrence of MS among these siblings was higher for those families where the mother was Caucasian and father was North American Aboriginal than the other way around. These findings suggest that the risk of MS conferred by one of the parents (the one of Caucasian origin) seems to be different depending on the sex of the parent that confers higher risk. This could mean that either the genetic influence on the risk of MS or the interaction between genetics and environment on the development of MS are different depending on the sex of the parent who confers the high risk for MS. This study helps us to better understand the pathogenesis of the disease, though further studies are needed.

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