Comparison of Clinical Disease Expression of Multiple Sclerosis between Hispanics and non-Hispanics patients

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Introduction

Characterization of the clinical disease in the non-Caucasian patients with multiple sclerosis (MS) and the genetics associated with the differential expression can shed light on the understanding of the immunopathogenesis of this disorder.

Information about clinical characteristics and differences between Hispanics and non-Hispanics patients is only beginning to be understood.

Objectives/Methods

To compare Hispanic white (HW) and non-Hispanic white (NHW) MS patients on a number of the clinical features and initial presentation of MS in South Florida

This is a cross-sectional study of consecutive consenting self-reported Hispanic patients seen at the University of Miami outpatient clinic.

A detailed race/ethnicity history was established spanning three generations.

Results

HW (n=289) and NHW (n=278) MS cases were ascertained through the MS clinic serving the greater Miami area and through patient outreach efforts in the same geographical area.

<table>
<thead>
<tr>
<th>MS Sample Origin</th>
<th>HW</th>
<th>NHW</th>
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</thead>
<tbody>
<tr>
<td>Caribbean</td>
<td>140 (49)</td>
<td>135 (48)</td>
</tr>
<tr>
<td>USA/Canada</td>
<td>95 (33)</td>
<td>93 (34)</td>
</tr>
<tr>
<td>South American</td>
<td>35 (12)</td>
<td>36 (13)</td>
</tr>
<tr>
<td>Central American</td>
<td>13 (5)</td>
<td>16 (6)</td>
</tr>
<tr>
<td>Mexican</td>
<td>2 (&lt;1)</td>
<td>1 (&lt;1)</td>
</tr>
<tr>
<td>Other</td>
<td>2 (&lt;1)</td>
<td>1 (&lt;1)</td>
</tr>
</tbody>
</table>

There is no statistical difference in the sex ratio in HW when compared to NHW.

**MS Disease Course**

- Higher percent of Hispanic white patients had RR-MS compared to non-Hispanics (p<0.01) but this was not statistically significant when adjusted for age at exam.

**Categorical Distribution of EDSS of HW/ NHW patients**

- Higher proportion of HW patients have minimal disability (EDSS <3) compared to NHW but it is not statistically significant when adjusted for disease duration.
- No difference in ambulatory disability between ethnicity groups (EDSS ≥6).

**Symptoms during course of illness**

- Fewer HW appear to present the symptoms tested during the course of illness.
- Motor weakness, ataxia and bladder disturbance were statistically significantly prior to adjustment for age at exam.

**Comorbidity with ATM and ON**

- HW patients born in the USA have a significantly earlier Age at Onset (29.21 ± 0.90) compared to HW patients born outside the USA (35.52 ± 0.78) after adjustment for site of ascertainment (p<0.001).
- This association remains significant after adjustment for diagnostic lag, ascertainment site, disease course and age at onset (p=0.005).

**Effect of Country of Birth on Age at Onset and Age at Diagnosis in HW**

- HW patients born in the USA have a significantly earlier Age at Onset (29.21 ± 0.90) compared to HW patients born outside the USA (35.52 ± 0.78) after adjustment for site of ascertainment (p<0.001).

**Conclusions**

- HW MS patients of predominant Caribbean origin in South Florida, appear to be diagnosed earlier than their NHW counterparts.
- HW MS patients born in the USA have both a significantly earlier Age at Onset and Age at Diagnosis compared to HW MS patients born outside the USA.
- This could be an result of differences in socioeconomic status.
- Frequency of ATM and ON is similar in both groups.
- Ethnicity is not a predictor of disease progression or ambulatory disability.
- HW MS patients may respond better to interferon treatment when compared to NHW patients.

**References**