

Clinical Features of Multiple Sclerosis in Puerto Rico

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Abstract

Multiple Sclerosis (MS) is a chronic neurological disease of the central nervous system (CNS). The objectives of the study are determining the clinical features of MS in PR. A cross-sectional analysis was performed to examine disease-related information. 698 questionnaires were received and evaluated and descriptive statistics used to analyze demographic data and MS related variables. Three MS-trained neurologists assessed 10% of cases and confirmed diagnosis. This is one of the first studies assessing MS patients in PR. Our findings suggest a possible high prevalence of MS. Differences in data reported in other Latin American countries could be attributed to environmental and/or genetic factors. Future studies should be performed to confirm prevalence data in PR.

Introduction and Purpose

The epidemiology of Multiple Sclerosis (MS) has been studied in developed countries, in areas known for their high prevalence; 50 to 300/100,000 habitants. In the US, there are 500,000 to 600,000 cases of MS and in Latin America, they reported 60,000 to 90,000 cases but few epidemiological studies of the features of MS has been performed. In spite of growing clinical impression of an increased incidence and prevalence of MS in Puerto Rico (PR), there are no well documented studies. According to the Continuous Health Survey for 2004-2005 the MS crude prevalence for PR was 54 for 100,000 persons. Puerto Rico is a Caribbean island, with a population of 3,994,259 inhabitants (Census, 2007), an area of 9,104 sq km, and a geographical location of 18°.15'N; 66°.30'W. Conquered by the Spaniards, it's genetically and cultural influence has mixed with African and Amerindian groups. During the last hundred years has undergone a great social, economical and educational development. Long believed to be a disease almost exclusively manifested in Caucasians, there is now evidence that MS occurs in virtually all races. However, the clinical manifestations and response to treatment may vary depending upon genetic, racial, and environmental factors. **Objectives:** 1. to develop the first continual Registry of MS in PR, and 2. to evaluate and analyze data obtained from MS patients to develop a profile of the disease in Puerto Rico (PR).

Methods

This cross-sectional study examine demographic and disease-related information. Validated questionnaires were sent out across the island of P R to patients from the PR MS Foundation and diagnosed with MS. We obtained: the patient's general information, place of residence before turning 16 years old, date of onset and date of the diagnosis of MS, symptoms, relapses, family history of MS, medications, and use of auxiliary equipment. The diagnosis was based on the Poser criteria. The migration effect was avoided by selecting patients born and raised in PR until at least the age of sixteen. A total of 698 questionnaires were analyzed followed by statistical calculations describing variables. Descriptive statistics were used to analyze socio-demographic and MS related variables, such as: onset and current symptoms, diagnosis date, exacerbations, family history, treatment, use of assistive equipment, psychological manifestations, patient's needs, and comorbid medical conditions. The statistical analyses were performed using SPSS, version 17.0.

Results

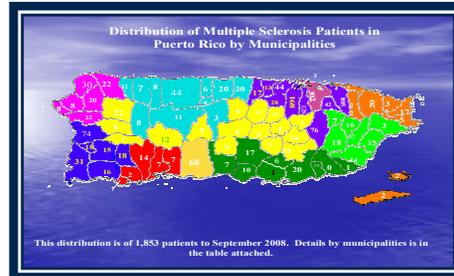


Figure 1

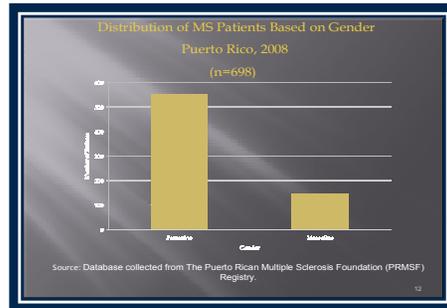


Figure 2

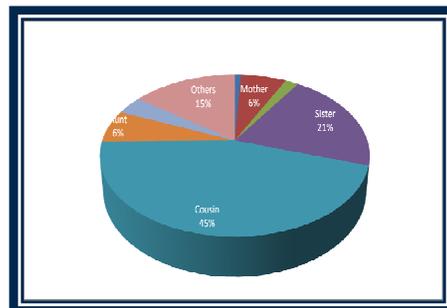


Figure 3

Results



Figure 4

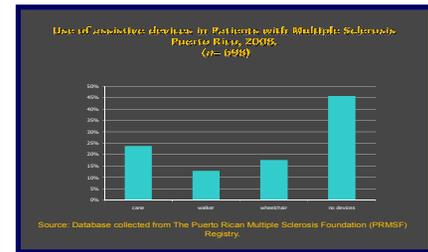


Figure 5

Discussion

Of 698 eligible participants, 79% were women and 21% were men. The mean age for women patients was 35 to 44 years and for men was 45 to 54 years. The main symptoms reported by patients after the first MS exacerbation were: extreme fatigue (68%), coordination problems (64%) and weakness (60%). As far as mobility devices are concerned: 46% (321) do not require any; 24% (167) use a cane; 13% (90) use a walker; and 18% (125) require a wheelchair. Twenty percent (20%) of the patients has a relative diagnosed with MS, of these, 45% were cousins and 21% sisters. Related to their treatment, 60% of the MS patients used Interferon as drug treatment. Among the most prevalent medical conditions suffered by the MS patients were: sinusitis (42%), allergies (37%), high cholesterol (28%), asthma (13%) and diabetes (13%).

Conclusions

In general, the mayor findings can be summarized as follows:
 Gender Ratio: 4 women with MS for each man with MS.
 Average age of MS women patients: 35 to 44 years.
 Average age of MS men patients: 45 to 54 years.
 The average age at the onset of MS for women is 33 years and for men is 32 years.
 The average age at the diagnosis of MS for women is 36 years and for men are 34. The average range between the onset and the diagnosis of MS among the participants is 8 years for women and 10 years for men. The participants of both gender reported MS duration of 12 years approximately.
 38% of MS patients informed that their occupational status is disabled and 3% is sick leave.
 The current symptoms identified by the MS patients are: numbness (74%), weakness on legs and arms (68%) and visual problems (63%).
 The main symptoms reported by patients after the first MS exacerbation are: extreme fatigue (68%), coordination problems (64%) and weakness (60%).
 60% of MS patients utilized Interferon as drug treatment. During their childhood, 82% of the MS patients had chickenpox.
 In comparison with Caucasians, the condition presents similar characteristics and is not more aggressive as has been thought or compared to the Afro-American.

Acknowledgments

We acknowledge Dr. Charles Poser, Dr. Maura Pugliatti, Dr. Ivonne Vicente, Dr. Jose Torres, Felicitia Rojas, and the Puerto Rican Multiple Sclerosis Foundation for their crucial role in initiating the study. Special thanks to Mr. John M Wilson, our medical editor and for providing the statistical analysis for this study, we would like to extend our thanks and recognition to Dr. Gilberto Ramos Valencia. We acknowledge Dr. Maria Teresa Miranda for editing the manuscript and technical assistance.

Disclosures

Dr. Angel Chinaea serve as speaker for BIOGEN-IDAC, TEVA and ALLERGAN.