The Incidence and Prevalence of Multiple Sclerosis in Newfoundland and Labrador, 1960--1984

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Epidemiological data have influenced much of the research into the causes of multiple sclerosis (US) (21). The geographical pattern of the disease and the identification of time-clusters of DAS have prompted the opinion that MS is an acquired etiogenic (environmental) disease. Areas studied with special interest have included a number of islands in which the population is relatively homogeneous and unchanging and in which NES has occurred either with high prevalence or in point-source outbreaks. No data have so far been reported from the largest island adjacent to the American continent, namely Newfoundland. This study was undertaken to remedy this deficiency, by determining the prevalence and incidence of MS in Newfoundland and to establish an MS registry to follow future incidence trends.

Sources And Methods

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Newfoundland and Labrador comprises the island of Newfoundland, lying between latitudes 46 and 52 N and Longitudes 56 and 61 W. The island has a land area of 145,133 square miles, and the coastal length is 5,200 miles. The population was estimated to be 1,360,000 in 1981, of which 1,180,000 live on the island, and 180,000 on the mainland. The island is divided into seven census divisions that were used to monitor local point-source outbreaks (Fig. 1). The island's climate is temperate, with January and July mean temperatures ranging around 0 to -1°C and 15 to 20°C, respectively. Precipitation is moderate at 100 to 130 cm per year.

The population bit howo a decelerating in 1969 with the establishment of a faculty of medicine and an affiliated hospital in St. John's, Newfoundland, due to the recruitment of numerous specialist physicians and the subsequent training of Newfoundland physicians willing to locate throughout the province. Whereas high-quality medical care was available but sparse before 1961, the subsequent years have seen an augmentation of the establishment of services to levels generally comparable to the national norm.

On Prevalence Day (March 31, 1985), five neurologists practiced from the capital city of St. John's, giving an effective ratio of 1:14,600. The first neurologist commenced practice in 1960, and since then more have joined, with the number of neurologists increasing to 10 by 1985. The overall number of neurologists practicing on the island has been relatively stable since 1970, and has since increased to 12. The diagnosis of MS was made following the criteria of the


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that the Avalon animal Hospital records of dogs were included until 1975, when the criteria for inclusion were determined. When the study was initiated, all available data on CD were gathered. Since 1960, all available data on CD were included in this study, except for a virtual outbreak among lepers in 1967, 1973, and 1978. The incidence was calculated as a percentage of CD in the population.

The mean and range of age at onset for all patients in Newfoundland (males, 14 years; range, 17 to 61 years) were similar to those reported in other studies (2.8, 15). The mean age at onset in male and female patients was 32.7 years; males, 32.7 years; range, 17 to 61 years) was similar to those reported in other studies (2.8, 15). The mean age at onset in female patients was 32.7 years; males, 32.7 years; range, 17 to 61 years) was similar to those reported in other studies (2.8, 15).

The CD statistics identified three outbreaks in the St. John'sAvalon region, in 1967, 1973, and 1978 (Fig 3). There was no visible correlation between these outbreaks and the annual incidence of CD in the population.
The geographical distribution of worldwide zones may exist within similar latitudes [3]. High-risk beans subject to extensive study [2, 15]. The results of one-way analyses of variance, significant differences were found and are noted in Table 1. Where in Canada, where changing populations have led to testing the results more reliably than those from elsewhere [21].

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