

## MULTIPLE SCLEROSIS IN A COUNTRY PRACTICE

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Recent literature on multiple sclerosis is extensive yet our ignorance as to aetiology remains total. Toxic, infective or allergic causes, heavy metal metabolism, swayback disease of sheep, high social class, primitive sewage disposal, a temperate climate, Scandinavian ancestry, these and many other factors have been suspected, investigated, discussed.

Inevitably there have also been surveys of various communities in an attempt to find out the incidence of the disease, and perhaps in a rather hapless sort of way to see if such information could give a hint about causation. This paper is such another.

The Peak district of Derbyshire has always been, fortunately for itself and for the surrounding cities, a rather backward area. Road communications were always poor and the packhorse was used here later than in other counties. Although Strutt and Arkwright contributed very early to the local industrial revolution and we are by no means exempt from increasing suburban infiltration, the population has remained comparatively static and the life of the countryside has remained intact. This practice covers about 80 square miles of the Peak district, taking in some 14 villages and 3,300 people.

### Previous Surveys

A survey of multiple sclerosis in this area is not quite new. Campbell in 1948, after a postal survey remarked that the incidence in the Bakewell area, 4 miles away, was above average. He gave a figure of 20 per 100,000 for England but of 50 or 60 per 100,000 for that area of Derbyshire. White and Wheelan's survey of the Kingston, Ontario figures showed an incidence of 77 per 100,000 but when transient and hospital cases were removed this figure dropped to 57. This accords closely with the recent survey of north-east England in which the incidence of cases reported by urban practitioners was 57 per 100,000 and by rural practitioners 62 per 100,000. Allison's survey also leads us to treat 60 per 100,000 as a reasonable baseline.

These surveys report a far higher incidence than this. Sutherland's figures are 113 to 129 per 100,000 for Shetland. Deacon and his colleagues reported 16 cases out of 4,900 in Duxbury, Mass. to give an incidence of 320 per 100,000, and Bammer and Schaltenbrand, in a survey of 46 communities of western lower Franconia, postulated

an incidence of 115 per 100,000 and a higher incidence in communities without drains.

In large-scale surveys grouping of cases has been noted, so that Ackermann contrasted a high north Switzerland incidence of 38 per 100,000 with the comparable figure of 3.1 for Wallis in the south. On a smaller scale, Hargreaves found a clumping of cases in one southern county area to give an incidence (94 per 100,000) greatly in excess of the figure for the county as a whole.

### Local Incidence

It was decided to restrict the present investigation to this practice only, without attempting anything on a larger scale and thereby inevitably blurring detail. In this way also the cases would be well known and it would be easier to avoid any inflation of the figures due to the inclusion of possible or suspected cases, as was done in Baumer and Schaltenbrand's survey. Cases were included only if they were known personally to me in the past 6 years and if they were patients of the practice, at any rate for a part of that time. All cases had had the diagnosis confirmed by a consultant neurologist. Three possible cases were excluded, although one was a long-standing member of the Multiple Sclerosis Society.

Despite these precautions no less than 15 cases of multiple sclerosis were under treatment in this practice of 3,300—an incidence of 450 per 100,000 and the highest so far reported.

In case the inclusion of cases over a six-year period may be thought to be partly responsible for such a high figure, changes over the period can be listed briefly as (i) two long-standing cases died of the disease, (ii) two cases left the practice, (iii) two cases joined it.

It is of interest to exclude the cases whose symptoms did not begin while they were living in the practice. This excludes two paraplegics who have lived more than 30 years in the area but whose symptoms began years before that, when they lived in distant and heavily industrialized areas, one transient case who came from a big town, lived 4 years in Baslow and then returned home again, a publican now working in this area, one local man who lived 3 years in a nearby town before his symptoms began but who then came back here, and one lady whose symptoms began in a town 10 miles away and who moved to our area after marriage—a total of three patients from distant areas and three from more than 5 but less than 15 miles from this village. The remaining nine cases come from 5 or fewer miles from this village.

### Discussion

The River Derwent runs through this practice. The river is still used as an open sewer and a sewage scheme is now being installed.

If this is of aetiological importance there should be a vastly different picture in 25 years time. Seven out of the nine local cases live or lived only a five-minute walk from the river at the start of their symptoms. Two such cases still live in the houses in which they were born, only 50 yards from each other and 25 yards from the river and the entrance into the river of the main drain.

This area is near where lead has been mined for centuries. Sway-back disease of sheep is common. An unusually high lead content has been found in the liver and brains of affected sheep and in the teeth of cases of multiple sclerosis. Although a dying disease "Derbyshire neck" still exists and the similar distribution of multiple sclerosis and endemic goitre has been previously noted.

It is known that other cases of multiple sclerosis exist in our area but are cared for by other doctors and are excluded. Even so in three neighbouring villages with a total population of about 1,700 we have looked after ten cases of the disease, and five of these could not but be of local origin.

### Symptomatology

No major variations from the usual disease-pattern have been noted. There are no familial cases among the nine females and six males. Onset was commonest in the 20-30 age-group, leading to a peak of grave disability in the 45-65 age-group. Perhaps rather surprisingly onset was commoner in the 50-60 age-group (3 cases) than in the preceding decade (none). Of the three cases beginning their disease over the age of 50, one female has no present disability, one female is a mild paraplegic and the one male became a hopelessly disabled paraplegic with incontinence, tremor and bedsores less than 5 years after the onset of his disease at the age of 54.

The men have done badly, two dying near the age of 50 and three being severely disabled paraplegics.

Seven (3 male, 4 female) out of the 14 cases have had the disease for 25 years or longer, four of these (all females) for 35 years or more and two cases have had the disease for 48 years. These survival times seem longer than average.

The small series tends to confirm that the onset of the disease by a retrobulbar neuritis carries a rather better prognosis than cases beginning with paraesthesiae, ataxia, or limb weakness. No less than five of our cases had psychiatric symptoms as a major component of their illness and in three cases these symptoms so dominated the picture as to delay the attainment of a correct diagnosis.

No occupational, social or dietetic points of significance were made. One patient is eczematous, one is a psoriatic and two have

had haematemesis and melaena after the use of salicylates.

### Summary

An incidence of 15 cases of multiple sclerosis is reported from a small country practice of 3,300. Nine cases were of local origin. Attributable to the disease over a six-year period were two deaths, seven gravely disabled paraplegics and three patients with minor neurological disabilities. Three patients were without present disability.

### Acknowledgments

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