Lithium Treatment in Aarhus. 1. Prevalence

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Summary

The prevalence of lithium treatment in a region with a population of about 372,000 was determined on the basis of information submitted and of blood samples sent to the laboratory of the Psychiatric Hospital in Risskov for serum lithium determination during the years 1986 and 1987. Correction was made for incidence. One in every 689, or about 1.5 in every 1000, persons in the population were receiving lithium treatment at any given time.

Prophylactic lithium treatment of manic-depressive illness is by now well established, and calculations of the extent of its usage have been carried out. These were based on questionnaires sent to hospitals, general practitioners, or patients on a particular date (Little, 1977; Bucht et al., 1981; Eastwood et al., 1981; McCreadie et al., 1985; Escobar et al., 1987), on the number of prescriptions for lithium preparations dispensed or the total amount of such preparations sold over a particular period (Hullin, 1978; Eastwood et al., 1981; Bergman et al., 1983), or on the number of serum lithium determinations carried out over a particular period (Eastwood et al., 1981).

While only the first procedure is a direct indicator of point prevalence, it is difficult to carry out for large regions and, because of agencies that do not keep a strict record of patients undergoing a particular treatment, subject to uncertainty. With the two latter procedures it is necessary to correct for incidence, i.e., the number of patients started on lithium during the period under study, in order to obtain correct measures of point prevalence. This was neglected in the studies quoted, and they may therefore have overestimated prevalences. Moreover, the second method is based on assumptions about mean daily lithium dosage and about actual consumption of tablets in per cent of numbers prescribed or sold, and the third method is based on assumptions about the mean number of serum lithium determinations per patient per year.

In Denmark, neither hospitals nor practicing physicians are obliged to report to any authority or register the kind and number of treatments they institute, and the frequency of ongoing lithium treatment is therefore unknown.

Material and Methods

The submission of questionnaires to all psychiatric and general hospitals, practicing psychiatrists, and general practitioners in a given region on a particular date would be cumbersome and might not provide reliable information. Estimates based on prescriptions dispensed or lithium preparations sold would give only a crude estimate of the true consumption of lithium.

The laboratory of the Psychiatric Hospital in Risskov carries out serum lithium determinations for a region with a population of about 372,000, and along with the blood samples information is submitted about the patients' name, age, sex, and identification number. It has accordingly been possible to count not only serum lithium determinations but also the number of patients actually treated, and this information has been used to calculate the point prevalence of lithium treatment in the region.

Assuming that very few patients in Denmark are given lithium treatment without having their serum lithium concentration determined at least once every two years, the authors chose to examine records for patients treated with lithium during the years 1986 and 1987.

Results

During these years the Risskov laboratory carried out serum lithium determinations on 687 patients, comprising 207 belonging to a cohort followed according to a

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During 1986 and 1987, 103 cohort patients started lithium treatment. The corresponding number for the other patients is not known, but analysis of the serum lithium records revealed that there were 44 patients in whom a month or less had elapsed between the first and the second determination. This presumably means that these patients were in the initial phase of lithium treatment. Cases where the first value was higher than 0.8 mmol/l were disregarded, since in such instances an early repeat determination may have been carried out for safety purposes. The total two-year incidence was accordingly 103 + 44 = 147. Prevalence can now be calculated by subtracting this value from the total number of patients treated (687), giving a point prevalence of 540 in a population of 372,000, i.e., 1 in every 689 persons in the population.

Discussion

According to our calculations, about 1.5 in every 1000 persons in the population were receiving lithium treatment at any given time in the region under study. This may be compared, albeit with the reservations mentioned in the introduction above, with frequencies reported in the literature, which range from 0.8 per 1000 in Västerbotten county in Sweden (Bucht et al., 1981) and in South-West Scotland (McCreadie et al., 1985) to 1.8 per 1000 in Metropolitan Toronto (Eastwood et al., 1981).

The Psychiatric Hospital in Glostrup near Copenhagen was the first to make systematic use of long-term prophylactic lithium treatment (Baastrup, 1964; Baastrup and Schou, 1967). In the Psychiatric Hospital in Risskov, lithium maintenance treatment was commenced later, yet the therapy has been in fairly general use here for more than 15 years. This presumably means that both the phase of skeptical underuse and the phase of enthusiastic overuse have been passed, and it does not seem unreasonable to assume that a point prevalence for lithium treatment of about 1.5 persons out of every 1000 in the population is a reasonable estimate of the need for such maintenance treatment as used on present-day indications.

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References


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