

The Leprosy Problem in Canada.

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At the fifty-fifth annual meeting of the Canadian Medical Association, the attention of the medical profession, also the public at large, was directed to the subject of leprosy in Canada, and it might not be out of place to bring to the notice of other workers the present position regarding the disease in this country. Both physicians and laymen generally seem to be unfamiliar with the disease, and unless a more enlightened attitude is taken toward it, leprosy may become a real menace to the nation through the immigration of people from countries where the disease is more or less prevalent.

HISTORICAL.

It appears that the first cases of leprosy known in Canada were discovered in the county of Gloucester, New Brunswick, in the year 1815, where sixteen years later as many as thirty cases were found. There are several stories extant as to how leprosy originated in this country. One is that two sailors from the Levant, after touching at Quebec, landed from a schooner at Caraquet, N.B., from whence they walked to Tracadie. There they received hospitality from a French family named Benoit. These two sailors are reported to have exhibited several ulcers on their bodies. Within the few years immediately following, some members of the Benoit family were found suffering from leprosy, which is supposed to have constituted the focus from which the disease spread to the population.

Another story is that a Scotsman who had served in the British army in India brought leprosy to Nova Scotia. A further claim that is made is that leprosy was brought to Louisiana by French families who settled in that state at the time they were expelled by the English from the maritime provinces. If this statement be true, it would be plausible to infer that leprosy existed in New Brunswick many years before 1815 and might have been imported there by French settlers who had come from St. Malo where the disease was known to exist at the time.

However, it is of interest to note that in the year 1844 the population of the province of New Brunswick became so much concerned about the spread of the disease that they prevailed upon the provincial government to erect at Tracadie in that province what was the first government operated leprosary on this continent, where in a very short time as many as twenty-seven lepers were segregated. From the somewhat incomplete information we have on the evolution of this institution

and the way it responded to the needs of the time, we can reasonably conclude that it cared for not fewer than one hundred and fifty lepers, while as many may have died at large.

In more recent years, applications from other provinces began to come in for the admission of lepers of foreign origin. This development formed the basis of negotiations between the provincial authorities of New Brunswick and the Federal Government for the latter to take over the maintenance and administration of the lazaretto, which was consummated in the year 1869.

In 1906 an Act concerning Leprosy was enacted by the Federal Government, providing for the compulsory segregation of lepers when such a request was received from the local authorities concerned.

A few years later the D'Arcy Island Lazaretto in British Columbia, which had been operated for some time previously by the provincial government, was taken over by the Dominion authorities. In 1924 the leper colony was transferred to Bentinck Island.

A full-time medical officer is in charge of the Tracadie Lazaretto. The British Columbia Lazaretto, is looked after by the medical superintendent of the William Head Quarantine station. At present there are eight patients in the Tracadie Lazaretto and twelve at Bentinck Island, classified by nationalities and dates of admission as follows :—

TRACADIE N.B.

Patient	Age	Sex	Date Admitted	Nationality	Where From
P.D.	42	M.	May, 1909	French Canadian	Lameque, N.B.
B.T.	78	F.	October, 1914	French Canadian	Portage River, N.B.
A.D.	30	F.	July, 1918	French Canadian	Lameque, N.B.
J.D.	67	M.	April, 1919	French Canadian	Lameque, N.B.
V. de L	29	F.	January, 1921	Scotch & French descent	
K.S.J.	47	M.	October, 1922	Chinese	Toronto, Ont.
J.P.	35	F.	November, 1926	Russian	Montreal, Que.
P.P.	85	M.	July, 1928	French Canadian	Blaine Lake, Sask. Neguac, N.B.

BENTINCK ISLAND, B.C.

Patient	Age	Sex	Date admitted	Nationality	Where from
F.H.	43		August, 1916	Chinese	Victoria, B.C.
C.K.W.	44		October, 1918	Chinese	Vancouver, B.C.
L.A.	33		November, 1918	Chinese	Victoria, B.C.
L.B.	38		December, 1921	Chinese	Vancouver, B.C.
C.K.	49		March, 1922	Chinese	Saanich, B.C.
L.J.	34		August, 1923	Chinese	Vancouver, B.C.
E.D.	36		January, 1924	Doukhobor	Verigin, Sask.
M.J.	32		May, 1924	Chinese	Vancouver, B.C.
W.K.D.	44		October, 1925	Chinese	Nanaimo, B.C.
W.H.F.	27		October, 1927	Chinese	Vancouver, B.C.
C.W.	42		August, 1928	Chinese	Nanaimo, B.C.
L.C.	81		March, 1929	Chinese	Vancouver, B.C.

Of the Tracadie Lazaretto patients, only three show positive signs of active disease, while in the case of the five others, the disease seems to be arrested ; but the latter are so mutilated as a consequence of the infection that they could not possibly resume their places in the community. At Bentinck Island, only two of the twelve inmates do not give microscopical positive reaction.

During the last ten years since the Federal Department of Health was created, it has been one of the incidental functions of that Department to look after the lazarettos. Within this period eleven new cases in all have been admitted at Tracadie, and ten at Bentinck Island. These came from six different provinces of the Dominion.

CLINICAL.

There are two common striking features of the individual histories of these cases. First, the difficulty and sometimes the impossibility of tracing the time and source of contamination, which may go back many years. Next is the inability of the average physician to diagnose the disease even in its third stage. The consequence has been that most of our lepers go from one doctor to another for one, two or three years before they can be told what is the matter with them, and this at great expense of time and money, as well as danger of infection to the community.

It is worthy of notice that we have in our lazarettos two patients who, prior to their admission, had some parts of their extremities amputated by surgeons of repute on a diagnosis of bone necrosis, without awakening the suspicion that they were cases of nervous leprosy, in which spontaneous amputation is a feature of the disease.

Another not less demonstrative case is that of a man who was treated for several months at a provincial V.D. clinic for syphilis, without beneficial results, although he had given repeated positive Wassermann reactions. Becoming discouraged, he was advised to go to the Mayo clinic at Rochester, from whence he brought back smears to show some of his doctors as evidence that he had leprosy.

As will be noted, the last cases reported occurred among foreigners, belonging to the class which is rather ignorant of the laws of sanitation. They live generally in aggregated communities of their respective nationalities. All had been in the country from six to fifteen years, which shows how long and uncertain is the period of incubation. Obviously, in such late diagnosis, there lurks grave danger to the healthy from the prolonged exposure.

Though the contagiousness of leprosy is no longer discussed in the medical world, it is probably one of the least transmissible of all contagious diseases. From the foregoing information, one may yet be

justified in thinking that some of the provinces may one day be confronted with the same problem as was New Brunswick in the second decade of last century. Under such conditions, the accommodation capacity of our lazarettos would require to be greatly increased.

DIAGNOSIS.

While the object of this paper is not to dwell upon the specific nature of the disease, its evolution, etc., I thought it apropos to mention here the conclusion of an article on "The Wassermann Reaction in Leprosy, with reference to the New Complement—Fixation Technique," by Dr. Kolmer, Professor of Pathology and Bacteriology, University of Pennsylvania, and Dr. Denney, of the U.S.P.H.S., Officer-in-Charge of U.S. Marine Hospital No. 66 (Archives of Dermatology and Syphilology, July 1923, Philadelphia, in which they say:—

"In some cases of leprosy there is an increased tendency of the serum to yield falsely positive Wassermann reactions; this is especially true in tests employing alcoholic extracts of tissue saturated with cholesterol.

"In the new complement-fixation test for syphilis, this tendency is neutralized by the use of a new antigen largely free from anti-complementary activity, and other technical improvements.

"Since the new complement-fixation reaction does not yield falsely positive reactions in leprosy, it is of value in differential diagnosis between cases simulating both leprosy and syphilis.

"A positive reaction in leprosy with the new method justifies the clinician in proceeding with anti-syphilitic treatment without the mental reservation that he may be uselessly subjecting a leper to unnecessary or even harmful measures."

Further, I believe that the following statement from such an eminent authority as Dr. J. T. McDonald, Pathologist to the Hawaiian Territorial Board of Health, resulting from his observation of one hundred and fifty cases, will be of interest to you:—

"The microscope is the supreme agent of the final diagnosis of leprosy. No patient should be committed to a segregated colony without a bacteriologic demonstration of the disease."

(This is not always possible in cases of purely nervous type, when in the first stage of the disease we have to decide from clinical symptoms.—J.D.P.)

"Of clinical symptoms, maculæ, chiefly leucodermic spots, are found in 89 per cent. of all cases.

"The lepra nodule found in 74 per cent. is the one chief distinguishing lesion of skin leprosy.

"Thinning or complete loss of eyebrows and lashes is present in 63 per cent.

"Atrophic changes in hands and forearms with retraction and contraction of fingers and enlarged ulnar nerve, in 32 per cent. a leading feature of nerve leprosy.

"The plantar ulcer found in 26 per cent., usually on the ball of the foot.

"Absorption of phalanges in 16 per cent., with occasional spontaneous amputation.

"Elephantiasis of hands and feet in 16 per cent.

"Facial paralysis in 11 per cent.

"The entire body should be carefully tested for anæsthetic areas.

"Several of the above symptoms can be found in some slight degree at least, in every leprous subject."

My comment is that if the doctors who have been consulted in the past by people afflicted with leprosy had had within their store of medical knowledge the information contained in Dr. McDonald's condensed statement, there would not have been so much procrastination in arriving at correct diagnosis.

The importance of early diagnosis in leprosy cannot be over emphasized for the following reasons, *viz.* :—

(1) If a foreigner is found suffering from leprosy within five years after his arrival in Canada, he can be sent back to his native country within the terms of the Immigration Act. After five years he becomes our burden until he is cured or dies.

(2) From the marvellous results obtained of late years from the treatment of leprosy with hypodermic injections of Ethyl Esters of Chaulmoogra Oil, the expert in leprosy holds the optimistic view that the disease can now be cured. Hence, the desirability of beginning treatment before the patient has reached the stage where he has become crippled in various ways. If the disease can be arrested, the deformities and various accidents resulting therefrom cannot be remedied.

(3) Since a leper is considered an element of contagion, the sooner he is removed from healthy environment, the better for the community.

CONCLUSIONS.

From the foregoing brief outline of leprosy conditions in Canada, I desire to emphasise the following points: first, that every member of the profession who has occasion to be consulted in private or hospital practice by people suffering from leprosy should regard it as his duty to acquaint himself better with the various manifestations of the disease from its incipency and, secondly, that it is highly desirable that our medical schools should devote a few lessons to exotic diseases so that the new generation of physicians will be better equipped to meet the various needs of its clientele, which in the large centres particularly, comprise people of almost every country of the world.