INDIAN SECTION.

Leprosy in an Urban General Dispensary.

A SURVEY OF ONE YEAR'S WORK.

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THERE seems to be a consensus of opinion that the dispensary plays an important part in the campaign against leprosy in a given area. Most, if not all, of the available reports of out-patient of dispensary leprosy work, however, have come from institutions specialising in the management of this disease. The object of this survey is to present the chief data collected from the records of all the leprosy patients examined and treated during the course of the routine work of a general dispensary situated in a city, within the period of one year—November 1st, 1929, to October 31st, 1930.

During the year, under review, 70 individual leper patients visited the dispensary a variable number of times. Even those who made only a single visit have been included in the survey. Most of the group were " old " patients, who had been under observation for months or years previously. The main points upon which we have attempted to obtain accurate information are: the proportion of lepers; age, sex, occupation, duration of the disease, and the length of time under observation and treatment; the type of disease, with bacterioscopic findings; the number of injections administered to each patient during the entire period of treatment and during the year under review; the presence of intercurrent diseases; and the degree of improvement.

Dispensary Statistics.

During the course of the year about 32,250 visits were made at the city dispensary by approximately 8,000 individual patients of all kinds. These figures include the three main clinics of the dispensary, the pay clinic, the charitable clinic, and the student clinic. By far the largest proportion of the leprosy group attend the mid-day charitable clinic, which cannot be said to have any special " reputation " for the treatment of leprosy. To be sure some of the patients know that they are suffering from a " blood disease," and having heard that " injections " are given with a certain degree of abandon at the Jumna Dispensary, they have a vague idea that they might be helped there; and so in a general way perhaps lepers are attracted somewhat more than by the average dispensary where " injections " are

not given so freely. At the pay clinic, the writer's honorary connection with the Naini Leprosy Settlement is undoubtedly a minor factor in the attraction of better-class patients, a few of whom have been referred to him by private practitioners in the city or nearby towns.

Aside from these two features which tend to increase slightly the size of our leprosy group, we feel that the number of cases of leprosy is fairly representative of that to be found in any city charitable dispensary. The Rural Dispensary figures have not been included in this survey. Allowing for the loss of records by incorrect filing, we would estimate that about one in every 800 new patients presenting himself or herself at the dispensary is suffering from leprosy.

Of the 70 patients :—

41 reside in the city (Allahabad).
22 come from surrounding villages.
7 come from neighbouring towns.

This proportion of villagers (one-third) is a little higher than the average for the city dispensary where villagers constitute about one-fifth of the total attendance. Practically all the patients from neighbouring towns, within a radius of about 100 miles, attend the pay clinic ; coming from such places as Benares, Satna, Pratabgarh, Machhlishahr, Fyzabad, Mirzapur, &c. They make monthly or bi-monthly trips to the dispensary for re-examination, and advice with regard to the further course of treatment, taking away with them sufficient fresh material for a course of injections, which are administered by local physicians or compounders in the towns of their residence. This plan, though far from ideal, works very satisfactorily in the case of intelligent patients of means.

Age, Sex and Occupation.

The seventy patients who form the basis of this survey were divided as to sex and age, as follows :—

Men	55
Women	11
Children	4

(all boys below 15.)

Ages by decades :—

First decade	0	Fifth decade	13
Second decade ...	4	Sixth decade ...	11
Third decade ...	19	Seventh decade ...	2
Fourth decade ...	21		

As one would expect, a large majority of the cases fall within the 20 to 49 age group. Since about one-third of the patients attending the general clinics are women, the proportion of women lepers (one-sixth) is far below the general proportion.

Unfortunately our records are not complete with regard to data on occupation. The list includes lawyers, shopkeepers, servants, food-sellers, peasants, sweepers, labourers, and students.

Clinical Types of Cases.

In attempting to classify the cases roughly from the point of view of proportion and degree of " skin " and " nerve " involvement, Dr. Muir's scheme has been used in a somewhat modified form. "A" has been used to designate " nerve," and the numerals, 1, 2, 3, the degree of invasion ; " B " skin, and " C " to designate the totally burnt-out cases. To this one would like to add + and —, to indicate whether the course of the disease in a given case is on the " ascent " or " descent " of " Muir's curve " ; but perhaps the addition of another symbol would not help one to visualise the type any more accurately.

The seventy patients have been classified as follows* :—

A_1	8	A_2B_1	14
A_2	6	A_2B_2	13
A_3	0	A_2B_3	4
A_1B_1	11	A_3B_2	1
A_1B_2	10	A_3B_3	1
A_1B_3	1	C	1

This too, is very much as one would expect, the mixed types predominating, with a fair proportion in the early groups.

The bacterioscopic examinations of skin clippings and nasal swabbings for lepra bacilli reveal the following :—

Skin clippings	positive	26
	negative	38
	not done	6
Nasal Swabs	positive	12
	negative	48
	not done	10
Skin positive and nose negative		10
Skin negative and nose positive		1

*In the recent International Conference leprosy was divided into two types, viz., N=Neural and C=Cutaneous. The numerals 1, 2, 3, affixed to the letters indicate the advancement of the disease. It was recommended that as far as possible the word " leper " should be deleted from conversations and writings.

These figures only help to confirm one's opinion that the diagnosis of leprosy is based largely on physical examination. Bacterioscopic examination is of value, in a few cases, in aiding one to differentiate leprosy from other conditions, such as fungous diseases of the skin and leishmaniasis. As indicated, nasal swabbing has proved of very little value in this group.

Body Charting.

All leprosy patients are " charted " soon after their first appearance at the dispensary, and re-charted approximately every three months. The charting which is a tedious, time-consuming and exacting procedure, is done by a specially trained assistant. Anterior and posterior rubber-stamps are used for the outline.

Intercurrent Diseases.

In addition to the regular initial history, physical and bacterioscopic examinations, all patients are subjected to most of the routine laboratory procedures, which include examinations of stool, urine and blood specimens—the Kahn test for syphilis and the night-blood concentration for microfilariæ. A permanent record consisting of an 8-in. by 5-in. card, to which leaves and charts can be attached *ad lib.*, and which is filed according to the name (alphabetically), is used for all patients, including those suffering from leprosy.

An analysis of the intercurrent diseases and conditions present in one group shows the following :—

Some intercurrent condition present in 37	53	per cent.
Filariasis—night-blood positive 14 ...	20	,,
Syphilis—		
Kahn positive 18	25	,,
Kahn positive 6	8·5	,,
with clinical evidence of syphilis.		
Kahn positive 12	17	,,
without clinical evidence of syphilis.		
Intestinal Parasites 15	21·5	,,
Miscellaneous—		
Chronic bronchitis	3	
Aneurysm	2	
Pyelitis	1	
Filarial manifestations	5	
Gonorrhœal urethritis...	1	

Malaria—acute and relapsing, was in evidence in a small proportion of the patients.

It seems to be especially worthy of note that the commonest intercurrent condition found in this group is filariasis, night blood positive. If all the patients manifesting pathological changes indicative of a filarial infestation, hydrocele, inguinal and femoral adenitis, funiculitis, lymph-angiovairx, &c., had been included the percentage incidence would have been considerably increased. Suffice it to say that as a result of our experience we consider filariasis not only the commonest inter-current disease in this area, but the most serious common condition associated with leprosy. Its presence seems to constitute an important factor in the production of " reactions " as well as increasing the frequency and severity of inflammations about the site of injection. Then, too, filariasis is practically uninfluenced by any form of treatment, except perhaps temporarily by intravenous injections of antimony; attacks of filarial fever interrupt the course of specific anti-leprotic treatment; and finally, it has a constantly debilitating effect on the general health of the patient. We are convinced that sufficient cognisance has not been taken of the presence and deleterious effects of filariasis in leprous patients.

Syphilis, its presence and importance, in the bulk and in individual cases, as a factor in lighting-up or increasing the severity of the leprous infection, is difficult to determine accurately. Those of us who are working in a general clinic, such as the Jumna dispensary, watching the results of thousands of Kahn tests in both leprous and non-leprous patients, and comparing the serological with the clinical findings, are accustomed to see the former coincide with the latter in a very large majority of the non-leprous cases. The impression is that the " Kahn " runs true to form in the general run of patients. This is not our impression, however, in the case of the leprosy group. We are convinced that leprosy, especially where there is fairly marked skin invasion (B_2), will not infrequently give a positive Kahn reaction. This conviction is strengthened by the figures given above: two-thirds of the Kahn-positive cases revealed no clinical evidence of syphilis in history or on examination. All of them were B cases.

With regard to the management of these cases we might mention that a positive Kahn reaction is disregarded unless it is backed-up by very suggestive or positive clinical data; or unless it occurs in an "A" patient. Then the patient is treated for his or her syphilis just as intensively as any

member of the non-leprous latent syphilitic group. The arsenicals are used *ad lib.** Then the course of E.C.O. (75 per cent. ethyl ester hydnocarpus, undistilled, in olive oil) and bismuth salicylate (5·5 gm. to 100 c.c. liquid paraffin) are usually run concurrently, one injection in each buttock twice a week.

Unfortunately the data available on the serological results of treatment are not sufficient to warrant conclusions.

Duration of the Disease.

It is impossible to secure accurate information from many patients on the question of the duration of the disease. One feels that most patients do try to tell, with a fair degree of accuracy, how long they have noticed certain symptoms; but in most cases one is convinced that the disease has existed for months, or often years previous to the date indicated by the average patient as the time of the commencement of the symptoms. This period ranges from two weeks to twenty-five years in the group under review, with an average duration of a little less than four years.

Period Under Treatment.

This is one of the most discouraging features of the whole study. To be sure, if all patients in India co-operated as one would like them to co-operate, the existing medical institutions would be hopelessly swamped by their visits.

Four of our patients came only once to the dispensary, and 17 were under treatment for three months or less. One a young European has been coming regularly for eight years and nine months. However, the average period under treatment for the entire group is 16 months, which is rather gratifying on the whole.

The 70 patients have received, in the entire periods during which they have been under observation, altogether 3,498 injections, which is an average of almost exactly 50 injections per patient. During the year under review, they have received 1,319 injections, which is an average of only 19 injections per patient. These totals might be augmented somewhat by including the injections given to those half-dozen or more pay clinic patients who received treatment in their home towns under the supervision of the clinic.

* This has been made possible through the kindness of two firms, E. Merck, of 916, Parrish St., Philadelphia, and The Havero Trading Co., of 15, Clive St., Calcutta, each of whom supplies us with Neo-arsphenamine and Neo-salvarsan, respectively, at a cost of Rs. 3, per 4·5 gm. tube, which is usually sufficient for ten injections, a cost of less than 5 as. per injection.

Nevertheless, in spite of these rather discouraging figures, there is a very strong impression among the dispensary staff that of all the large groups of patients, including the syphilitic, the tuberculous and the leprotic, the latter are the best co-operators. The figures indicate that a certain proportion, perhaps one-third, who decide to stick, do so with a wonderful degree of patience and fortitude.

It is of interest to note that of the 70 patients we succeeded in persuading only one man to be admitted to the nearby Asylum at Naini.

Printed instructions in the appropriate language or script, Urdu, Hindi, Roman Urdu, or English, are given to most patients. This leaflet reads as follows :—

INSTRUCTIONS TO PATIENTS SUFFERING FROM LEPROSY.

You have leprosy : which is caused by a particular organism that enters the body, either through the delicate membrane of the nose and throat, or through an abrasion in the skin. It is always acquired by being in close contact with somebody who already has the disease. You may not have been aware of such contact. Possibly it occurred in childhood, during which period a person is especially susceptible to infection by the bacteria of leprosy. Food, clothing, dishes and fingers contaminated with these organisms can carry the disease. Once they gain access to the body they enter the blood, and later, perhaps many years later, give rise to the manifestations which are characteristic of the disease, small discoloured patches on the skin ; little raised nodules on the body, chiefly the face ; areas of anæsthesia, mostly common on the hands and feet.

Treatment.

This is a matter of at least two years' absolute co-operation with the dispensary. Success depends largely on commencing treatment early and continuing it faithfully. If the manifestations are not marked there is a 30 per cent. chance that the progress of the disease can be arrested.

Report at the dispensary for injections, which are given twice a week, on Wednesdays and Saturdays. In addition, take regular moderate exercise. Spend as much time as possible out of doors. Sleep outside all the year round. See that your food is fresh and prepared with care. Eat plenty of fresh vegetables, and drink half a seer or more of milk each day. Bathe daily. Expose the body as much as possible to the air and sunshine. Get your sleep regularly.

Prevention.

Because of the danger to others you are urged to go to the home at Naini. There you will receive regular treatment, just as at the dispensary. Quarters, food, water and a small money allowance are provided. In addition, you are given for cultivation as much land as you can care for properly. You may take a near relative with you, and any children you may have will be well cared for and educated in the homes for lepers' children.

By going to the Asylum you will probably save someone from contracting the disease. But if it is really impossible for you to go, carry out the following instructions as best you can :—

Give up your present work if it brings you in close contact with others, or necessitates your handling food or clothing. Substitute farming or wood-cutting, if conditions will permit. In your home live separate from the family, using your own bed, clothing, dishes and room or screened-off portion of the verandah. Keep everybody, especially children, away from yourself, your room and your personal belongings. Do not cough or sneeze without covering your mouth and nose with a handkerchief.

Bring every member of your household to the dispensary for examination.

Results.

Admitted to the Asylum	1	
Inadequate treatment	15	
(Less than 10 injections)		
Retrogression	0	
Slight improvement 16	30	per cent.
Moderate improvement 18	33	,,
Marked improvement 16	30	,,
Arrested 4	7	,,

These figures need little comment. As usual, one is struck by the large number, 93 per cent., of patients who manifest some degree of improvement, and the very small proportion of those in whom the disease is arrested or clinically cured. One unfavourable feature is not apparent in these figures, and that is that after several months or years of treatment the general condition of a few of the patients could not have been said to have " improved," although the disease leprosy showed definite signs of retrogression. However, on the whole, the results are gratifying, and our conclusion is that a general dispensary has a place, and in some ways a very important place in the campaign against leprosy.