

Abstracts

1. **Leprosy disability in Yimbo and its economic effects**, by H. J. CHUM and Y. OTSYULA. *East African med. J.*, 1970, **47**, 389.

The authors conducted a survey of patients with leprosy in Yimbo Location, in the Central Nyanza district of Kenya, with special reference to disability attributable to leprosy. A complete house-to-house census of the extremely scattered population was undertaken. Of the total number of people counted (5225), 92% (4731) attended for medical examination. Among these, 63 patients (24 male, 39 female) were diagnosed as suffering from leprosy (classification and activity not indicated), of whom 26 had some disability—cutaneous anaesthesia (14 patients), neuropathic ulceration (6), madarosis, claw-hand and foot-drop. A third of the females had some degree of disability, and 13 males (out of 24).

S. G. Browne.

The following 2 abstracts are reprinted, with permission, from *Trop. Dis. Bull.*, 1970, **67**, 7:

2. **Evaluation of the earlobe in leprosy. A clinical and histopathological study**, by R. E. MANSFIELD, M. A. STORKAN and I. S. CLIFF. *Arch. Derm.*, 1969, **100** (4), 407-12.

Since the ear-lobe is a commonly chosen site for skin smears, a study was made of the histopathological lesion in the ear in 54 patients with leprosy (34 lepromatous, 10 dimorphous and 10 borderline).

There was found to be good correlation between clinical and histological findings in patients with lepromatous leprosy, and erythema nodosum leprosum was detected in the biopsy specimen whenever it was present clinically. In tuberculoid leprosy, however, the ear biopsy specimen showed only a chronic dermatitis, while in patients with the dimorphous type the biopsy results were unpredictable, and a characteristic granuloma was found in only 2 patients. There was good correlation between bacterial and morphological indices in scrapings and biopsies.

D. S. Ridley.

3. **La microradiographie et la microscopie de fluorescence appliquées à l'étude des lésions osseuses de la lèpre** (Application of microradiography and fluorescent microscopy to the study of bone lesions of leprosy), by L. COUTELIER and A. RENDERS. *Ann. Soc. Belg. Méd. Trop.*, 1969, **49** (5), 427-56.

Conscious of the fragmentary nature of knowledge of specific bone changes in leprosy, the authors had the happy idea of applying the modern techniques of microradiography and fluorescent microscopy to the

simultaneous study of 42 specimens of bone (mainly phalanges) removed at operation from adult patients with leprosy. By giving tetracycline to these patients at known periods before operation it was possible to deduce which of the observed bony changes occurred after deposition of the "calcium-tetracycline complex", which is radiographically opaque.

Examination of microradiographs of specimens 70 μ thick provides earlier and much more precise information of bone destruction and new bone deposition than is shown on standard X-ray plates, and the juxtaposition of the microradiographs with the pictures obtained by fluorescent microscopy reveals the timing of the osteological changes. In lepromatous leprosy, both external destruction of the bony tube and internal bone deposition in the medullary cavity proceed apparently in one of two ways—either slow and regular, or rapid, irregular and exuberant. The information given in the text and the excellent reproduced microradiographs may be mentally correlated with existing knowledge obtained by conventional radiographic procedures.

[This paper should be studied in the original.]

S. G. Browne.

The following 4 abstracts are reprinted, with permission, from *Trop. Dis. Bull.*, 1970, **67**, 8:

4. **Deux cas d'abcès lépromateux aigus du nerf cubital** (Two cases of acute lepromatous abscess of the cubital nerve), by A. CARAYON, J. LANGUILLON, L. MAYDAT, I. FAYE and M. BOURGES. *Bull. Soc. Méd. Afri. Noire Lang. Fr.*, 1969, **14** (4), 659-62.

"Tuberculoid cold abscesses of the nerves are encountered in 2 to 3% of the cases. The lepromatous acute abscess is very uncommon. Two cases are presented; one in the course of a relapse, 20 years after 'recovery'; the other in a treated lepromatous patient (3 nerves affected, temperature at 41°C that fell only after draining off)."

5. **Auto-traitement de la lèpre** (Self-treatment in leprosy), by J. DUTERTRE. *Méd. Trop.*, 1969, **29** (4), 490-96.

The author reviews an experiment he conducted in 1962 in the Upper Volta, where the climate, the scattered nature of the population and the difficulty of maintaining itineraries by motor vehicles rendered the regular treatment of patients with leprosy almost impossible. He abandoned, in turn, such methods as: quarterly visits by car to fixed centres in order to give to each patient enough tablets for the following 3 months; quarterly visits by cyclist for the same purpose; providing a supply of tablets to some responsible

person in the villages for distribution to patients with leprosy. The method finally adopted—and advocated in the article—was the provision of tablets at central dispensaries from which patients could draw their quarterly supplies on any day they chose. The author concludes that this practicable method ensured continuity of treatment by enlisting good patient cooperation and the goodwill of medical auxiliaries. He answers objections raised by critics of this method, for example—that medical control of the patients and the dose of drug taken is no longer possible; that, in the absence of a doctor, patients with leprosy cannot be diagnosed or receive treatment; that the paper packets containing tablets for 3 months do not stand up to wear and tear; and that the patients are denied the psychological incentive that comes from meeting together on the same day at a central place to receive treatment.

[This article contains many forthright and practical suggestions for bringing leprosy treatment to the many areas in the world where essentially similar conditions militate against the application of conventional (and perhaps idealistic) methods of mass treatment.]

S. G. Browne.

6. **La lutte contre la lèpre en Afrique Centrale** (The leprosy campaign in Central Africa), by R. LABUSQUIERE. *Méd. Trop.*, 1969, **29** (4), 479-89.

The author provides a salutary answer to some recent over-pessimistic pronouncements about the world leprosy situation. With good planning and conscientious execution of mass control schemes, the prevalence of leprosy has been halved in some of the ex-French colonies of Central and West Africa. But where such schemes have been applied half-heartedly, or abandoned before they could show results, no similar reduction in prevalence has been noted. The segregation of patients in old-type leproseries (as in Cameroun) is both costly and ineffective, and the consequences of the virtual discontinuance of the mobile treatment circuits (as in Gabon) are now evident.

The excellent coverage of leprosy in many of the ex-French territories not only emphasizes the possibility and practicability of leprosy control, but also gives point to the less optimistic reports from countries where regular whole-population surveys and mass treatment campaigns are non-existent or in their infancy, and where patients registering voluntarily for treatment are already suffering from advanced leprosy and deformities.

S. G. Browne.

7. **Morphological changes of *Mycobacterium lepraemurium* grown in cultures of mouse peritoneal macrophages**, by Y. T. CHANG and R. N. ANDERSEN. *J. Bact.*, 1969, **99** (3), 867-75.

Mouse peritoneal macrophages were infected with either "short forms" of *Mycobacterium lepraemurium*,

"moderately long" forms or killed bacilli. There was a lag phase of 5 weeks before bacillary multiplication was observed. During the first 2 weeks after infection the proportion of irregularly stained organisms increased from 31 to 66 or 77%. "The average length of the non-solid bacilli increased from 2.3 to 3.6 μm in 1 week", and there was a "rapid disappearance of very short organisms with the simultaneous increase of longer ones". It is pointed out that Waters and Rees (*Trop. Dis. Bull.*, 1963, **60**, 1123) considered short forms of *Myc. leprae* as degenerate or dead bacilli. Eight different types of appearances of irregularly staining bacilli are described, and exactly similar appearances were seen with the killed bacilli, but in the latter case "no elongation could be measured". The authors suggest that their study "does not support the current hypothesis that all non-solid acid-fast organisms are non-viable". They discuss previous studies of irregularly staining *Myc. leprae* and state that in these studies non-solid organisms obtained from the growth phase were not tested for viability [but their own experiments did not include such a test. Further studies are clearly needed to elucidate this important point.]

C. S. Goodwin.

The following 7 abstracts are reprinted, with permission, from *Trop. Dis. Bull.*, 1970, **67**, 9:

8. **Occurrence of leprosy in U.S. veterans after service in endemic areas abroad**, by M. L. BRUBAKER, C. H. BINFORD and J. R. TRAUTMAN. *Publ. Hlth Rep.*, 1969, **84** (12), 1051-8.

Basing their report on information obtained from the United States Public Health Service Hospital at Carville, Louisiana, and State medical authorities, the authors provide interesting (though admittedly incomplete) figures of known instances of leprosy almost certainly contracted by "veterans" (ex-service men) during military service in countries where leprosy is prevalent. Patients who may have contracted the disease during previous residence in areas of the United States where leprosy is endemic are excluded. Before 1940, 30 cases were attributed to such infection, out of a total of 83 reported cases. From 1940 to 1968, out of a total of 240 cases of leprosy reported in United States veterans, 46 were considered to have been almost certainly contracted during military service abroad. All but one of these 46 patients were exposed to leprosy before 1960. A brief history and clinical details are given of each patient.

It is considered likely that within the next few years instances of leprosy infection will come to light among those serving in the armed forces in Vietnam, where the prevalence of leprosy is of the order of 5 per 1000, and also among members of the Peace Corps working in countries of known high prevalence.

The authors give a salutary reminder that leprosy is a contagious disease. A returned veteran had signs of leprosy for 4 years before the disease was suspected and diagnosed. In the meantime, his wife and 3 of his 4 children had contracted leprosy. In the United States

[and elsewhere] leprosy is overlooked by physicians and pathologists. It is hidden by patients for fear of loss of employment and social ostracism. Healthy persons who have had leprosy at some time are not allowed to serve in the armed forces. The authors advocate a revision of antiquated laws and regulations to bring them into line with modern conceptions of the disease, its low infectivity and its curability.

S. G. Browne.

9. **Cell-mediated immunity in patients with leprosy**, by J. L. TURK and M. F. R. WATERS. *Lancet*, 1969, Aug. 2, 243-6.

There have been several accounts of absent delayed hypersensitivity reactions in patients with lepromatous leprosy. However, unlike babies with complete deficiency of cell-mediated immunity, patients with leprosy are not specially prone to secondary infection except of anaesthetic ulcerated areas.

On testing with a simple contact agent, 2,4-dinitrochlorobenzene (DNCB), 12 out of 24 patients with lepromatous leprosy could not be sensitized. Seven out of 7 patients with tuberculoid leprosy and 3 out of 4 in a borderline group developed delayed hypersensitivity. Of the 12 patients with lepromatous leprosy who did not react with DNCB, 10 subsequently showed delayed hypersensitivity when tested with keyhole limpet haemocyanin (KLH).

Epirochlear lymph glands from patients who could be sensitized to DNCB, and from those who could not, were similar histologically and showed massive replacement of the paracortical areas by actively phagocytic histiocytes. Some small lymphocytes were however present.

It is suggested that failure of cell-mediated immunity in these patients was primarily directed against *Mycobacterium leprae* but was followed by a partial non-specific failure due to infiltration of the paracortical areas of lymph glands by histiocytes containing mycobacteria. Sufficient cell-mediated immunity was thought to be left to enable these patients to deal normally with other viral, fungal, mycobacterial and protozoal infections.

KLH appears to be a more potent inducer of delayed hypersensitivity than DNCB but the picture is confused by the fact that two-thirds of the patients tested showed an immediate hypersensitivity reaction to KLH, suggesting previous experience of a cross-reacting antigen.

A. A. Glynn.

10. **Syphilis and biologic false positive reactors among leprosy patients**, by A. T. SCOTT,

D. M. MACKEY and J. R. TRAUTMAN. *Arch. Derm.*, 1970, **101** (3), 328-30.

Sera from 206 patients with leprosy [unclassified] at Carville, Louisiana, U.S.A., were tested with the Venereal Disease Research Laboratory (VDRL) slide test and the rapid plasma reagin (RPR) card test. Sera positive in either of these tests were tested with the treponemal immobilization (TPI) test and the fluorescent treponemal antibody absorption (FTA-ABS) test. Eighty-two sera were positive in the VDRL test, but 58 of these were negative in the RPR test. Twenty-three of the 24 sera positive in the RPR test were positive in the TPI or FTA-ABS test. Of the 82 positive sera 24 were positive in both the TPI and FTA-ABS tests, 7 being positive in the latter alone, and 2 in the TPI test alone. Thus 33 (16%) of the 206 patients tested were considered to have serological evidence of a treponematosis and 24% of the sera showed "false-positive" tests for syphilis. Many of the patients included in this study had lived in or visited areas in which treponematoses other than syphilis are endemic. "We must assume that at least some of the patients with reactive treponemal tests [TPI or FTA-ABS] are syphilitic." Socio-economic factors and host susceptibility are discussed as possible contributory causes for this high rate of 16% of probable infection with syphilis among leprosy patients.

C. S. Goodwin.

11. **Experimental and clinical studies on rifampicin in treatment of leprosy**, by R. J. W. REES, J. M. H. PEARSON and M. F. R. WATERS. *Br. med. J.*, 1970, Jan. 10, 89-92.

After establishing the efficacy of rifampicin (Rifadin) in mouse footpad infections with *Mycobacterium leprae*, the authors treated 6 patients suffering from lepromatous leprosy who had not received previous treatment. The antibiotic was administered in a single oral dose of 600 mg before breakfast. Observing a rapid fall in the Morphological Index, much more rapid than would have been expected with dapson, they enlarged the trial to include an additional group of 10 patients, some of whom had been previously treated with dapson; those in this group who weighed less than 35 kg were given 450 mg daily.

In both groups, rifampicin was found to be highly active against *Myc. leprae*, and the rapid fall in Morphological Indexes indicated that it was acting bactericidally. Reactions occurred in some patients, but were neither more frequent nor more severe than would have been expected with dapson. No toxic effects were encountered.

[See also *Lepr. Rev.*, 1970, **41**, 25-30.]

W. H. Jopling.