Abstracts

1. **Isoniazid plus Thioacetazone compared with Two Regimens of Ioniazid plus PAS in the Domiciliary Treatment of Pulmonary Tuberculosis in South Indian Patients,** by TUBERCULOSIS CHEMOTHERAPY CENTRE, MADRAS. *Bull. Wld. Hlth. Org.*, 1966, **34**, 4, 483-515.

Two hundred and forty South Indian patients with advanced pulmonary tuberculosis and with similar clinical, radiographic and bacteriological conditions were allocated at random to treatment for one year with one of 3 regimens of daily oral chemotherapy. They were treated on an out-patient basis and required to administer the drugs themselves at home. The 3 regimens and the daily dosages for a patient weighing 100 lb. (45.4 kg.) were:—

PH : Isoniazid 200 mg. plus sodium PAS 10 g. in 2 divided doses.

TH : Isoniazid 300 mg. plus thioacetazone 150 mg. in one dose.

P_6H/H : Isoniazid 200 mg. plus sodium PAS 6 g. in one dose for the first 6 months, followed by isoniazid 300 mg. in one dose for the second 6 months.

This study has shown that the regimen of isoniazid plus thioacetazone (TH) was as effective as the standard regimen of isoniazid plus PAS (PH) in the treatment for one year of patients with advanced pulmonary tuberculosis. However, the thioacetazone regimen had a higher incidence of side-effects. A 2-phased regimen of isoniazid plus 6 g. of PAS for the first 6 months followed by isoniazid alone for the second 6 months (P_6H/H) was less effective.

2. **A Controlled Study of the Influence of Segregation of Tuberculous Patients for one year on the Attack Rate of Tuberculosis in a 5-year Period in Close Family Contacts in South India,** by S. R. KAMAT *et al. Bull. Wld. Hlth. Org.*, 1966, **34**, 4, 517-32.

The authors undertook a controlled survey in South Indian families to assess the value of domiciliary treatment of pulmonary tuberculosis for one year as compared with sanatorium treatment. There were 693 close family contacts and the majority of the families came from lower income groups with poor living conditions and dietary standards. The findings in this report together with those published previously for patients demonstrate that ambulatory treatment of patients with pulmonary tuberculosis is practicable and effective and safe for the close family contacts.

3. **A 5-year Study of Patients with Pulmonary Tuberculosis in a Concurrent Comparison of Home and Sanatorium Treatment for One Year with Isoniazid plus PAS,** by J. J. Y. DAWSON *et al. Bull. Wld. Hlth. Org.*, 1966, **34**, 4, 533-51.

A total of 193 patients was admitted to a controlled comparison of home and sanatorium treatment of pulmonary tuberculosis, all patients receiving a standard regimen of isoniazid plus PAS for one year. The present report deals with the progress of all these patients (96 home, 97 sanatorium) during the 2nd, 3rd, 4th and 5th years. Of the total of 193 patients 8 died from non-tuberculous causes during the 5-year period. Of the remaining 185, 90% had bacteriologically quiescent disease at 5 years, 4% had active disease and 6% had died of pulmonary tuberculosis. The proportion of patients who had quiescent disease at 5 years was very similar for the home and the sanatorium series, being 90% and 89% respectively.

4. **The Diet, Physical Activity and Accommodation of Patients with Quiescent Pulmonary Tuberculosis in a Poor South Indian Community,** by C. V. RAMAKRISHNAN *et al. Bull. Wld. Hlth. Org.*, 1966, **34**, 4, 553-71.

A study was undertaken of the diet, physical activity, occupation and living accommodation of 127 South Indian patients with pulmonary tuberculosis whose disease had attained bacteriological quiescence after one year of treatment with isoniazid plus PAS. Despite adverse environmental conditions bacteriological quiescence has proved to be stable over 4 years in the great majority of patients. This study does not provide information on the influence of environmental factors on the susceptibility of the individual to tuberculosis, on the spread of the disease in the community or on the progression of the disease in untreated or inadequately treatedpatients.

5. **Comparative Value of Sputum Smear Examination and Culture Examination in Assessing the Progress of Tuberculosis Patients receiving Chemotherapy,** by S. DEVADATTA *et al. Bull. Wld. Hlth. Org.*, 1966, **34**, 4, 573-87.

This paper compares the value of smear examination for tubercle bacilli of overnight specimens of sputum, month by month, with that of culture examination and isoniazid-sensitivity tests in assessing the progress of patients treated with isoniazid, either alone or with sodium PAS, in 3 chemotherapy studies. The comparisons are based on the ability of these bacteriological methods to predict during treatment, the response at the end of 12 months, which was classified as favourable or unfavourable, mainly on the basis of culture results at 10, 11 and 12 months. Reliable conclusions could be drawn regarding the therapeutic efficacies of regimens by considering the results of smear examination, since the 2 types of assessment (smear and culture) yielded on the average identical classifications in 95% of the patients. However, smear examination was slightly less sensitive than culture examination in detecting differences in the therapeutic efficacies of various antituberculosis regimens. This disadvantage can usually be offset by admitting about 20% more patients.

An Epidemiologist's View of Leprosy, by K. W. Newell. *Bull. Wld. Hlth. Org.*, 1966, **34**, 6, 827-57.

The author from the point of view of an epidemiologist gives a critical review of some recent publications on leprosy. Leprosy appears to be an infectious disease resulting from an infection with *M. leprae*. The method of spread and point of entry of the bacillus are unknown but it is probably airborne and may enter a susceptible person through either the skin or the nasopharynx. In a proportion of persons infected the disease shows a clinical form, lepromatous leprosy, with an unfavourable prognosis, greater infectivity and different symptomatology. The number of patients of this type in a community may be a major influence upon the continuation of the disease and its prevalence in a given area. At present, potential patients with lepromatous leprosy cannot be identified beforehand although they are probably included in that part of the population which is Mitsuda-negative. The infected individual without symptoms cannot be identified at present although the incubation period of leprosy may be several years. It is probable that symptomless infections frequently occur. Immunity is said to vary because of inherent differences in susceptibility. No known disease (including tuberculosis and BCG vaccination) has been adequately demonstrated to be related to infection with *M. leprae* or to alter the course of a leprous illness occurring subsequently. Leprosy has had an almost world-wide distribution but it is now largely restricted to the tropics and subtropics and within endemic areas its distribution is uneven. No non-human reservoir of *M. leprae* is known or postulated. The lepromin test (Mitsuda reaction) is the first objective test related to prognosis but at present it is unstandardised in both its nature and its interpretation. Reactivity has been demonstrated in many uninfected population groups in endemic and non-endemic areas but few major variations have been shown. Such an unusual disease that apparently has such difficulty in survival and that cannot be identified outside the human body must surely be controllable. The problems connected with its prevention appear soluble if reasonable effort and objectivity and existing scientific methods of approach are directed towards it.

7. **The Histopathological Appearance of Leprous Rhinits and Pathogenesis of Septal Perforation in Leprosy,** by C. K. Job, A. B. A. Karat and S. Karat. *J. Laryng. & Otol.*, 1966, **80**, 7, July, 718-32.

Forty-eight biopsies from the noses of 38 patients—2 tuberculous, 3 indeterminate and 33 lepromatous—were studied. The histopathological appearance of leprous lesions in the nose is described. In the tuberculoid and borderline patients there is infiltration of the nasal mucosa with lymphocytes, epithelioid cells and giant cells but no obvious destruction of the nasal cartilage or bone is seen. In lepromatous leprosy the septal cartilage is surrounded by vascular granulation tissue which may promote the absorption of cartilage cells but the chief cause of the destruction of the cartilaginous septum is the gradual invasion of the cartilage by lepromatous granulation tissue. In addition there is atrophy of the nasal mucosal lining followed by ulceration. The ulcers invariably are secondarily infected and the acute inflammatory granulation tissue formed may invade the nasal cartilage and destroy it. Part of whole of the nasal septum and the tissue around it are replaced by fibrous tissue and the nose which has lost its main support is subject to the pull of the contracting fibrous tissue as well, and the end result is a retracted, collapsed and deformed nose.

8. **Rehabilitation in Leprosy,** by V. K. Sharma. *J. Ind. Med. Ass.*, 1966 **47**, 8, 408-409.

This paper is of great practical value and should be studied intimately in the original.

9. **The Management of Dry Skin in Leprosy Patients,** by J. R. Harris and S. G. Browne. *Lancet*, 1966, May 7, 1011-13.

The authors discuss, with 4 case-reports, the frequent and serious complication of dry skin in patients with leprosy. The low water content of the skin is associated with diminished sweating and the occurrence of peripheral neuropathy, and aggravated by low atmospheric humidity. The condition may be relieved, and fissuring prevented, by daily soaking of the affected part in water, followed by an application of soft paraffin. This simple and valuable practical hint is welcomed.

(From abstract by J. R. Innes in *Trop. Dis. Bull.*, 1966, **63**, 9, 984.)

10. **Nimbadi-Lepa in the Treatment of Leprosy. A Preliminary Report,** by D. Ojha. *Indian J. Med. Sci.*, 1966, **20**, 3, Mar., 217-21.

The Ayurvedic or ancient Indian system of medicine makes available several varieties of 'lepas' or inunctions in the treatment of leprosy and the author, encouraged by the reported success of Etisul or ditophal in the treatment of leprosy by inunction, chose Nimbadi-Lepa for trial on 6 patients with lepromatous leprosy selected from out-patients. The results were compared with those of DDS given to another group of 6 patients with leprosy. The results were encouraging and the drug was without toxic effect during the whole period of treatment of 6 months. Further studies are desirable.

The inunction of Ayurvedic origin contained 13 ingredients as follows:—(1) the bark of *Azadirachta indica*, (2) the rhizome of *Curcumalonga*, (3) the wood of *Berberis aristata* and other species, (4) the leaves and flowering top of *Ocimum sanctum*, (5) the leaves of *Trichosanthes dioica*, (6) the root of *Saussurea lappa*, (7) the root of *Withania ashwagandha*, (8) the wood of *Cedrus deodara*, (9) the bark of *Moringa oleifera*, (10) the seeds of *Brassica nigra*, (11) the fruits of *Coriandrum sativum*, (12) the fruits of *Zanthoxylum alatum*, (13) the plant of *Angelica glauca*.

It was found that Nimbadi-Lepa speedily reduced the external signs of leprosy, decreasing the size of nodules and skin lesions. It promoted pigmentation and caused marked reduction of the bacterial index and this reacted favourably on the general psychological state.

It can be used with other anti-leprotic drugs such as DDS. Nimbadi-Lepa gives quick and encouraging results, but a longer time of study is needed for full assessment as to the time of treatment required and study of drug resistance and relapses.

(From abstract by J. R. Innes in *Trop. Dis. Bull.*, 1966, **63**, 9, 985.)

11. **La situation de l'endémie lépreuse en Guyane Française en 1965** (Leprosy in French Guiana in 1965), by H. Floch and M. Duchassin. *Bull. Soc. Path. Exot.*, 1965, **58**, 3, May-June, 401-9.

The senior author refers to his intimate knowledge of the leprosy situation in French Guiana since 1938. With Duchassin, he now reviews the present state of leprosy control in the territory.

Since mid-1964, a town leprosy clinic has catered for certain categories of patients: those suffering from recently-diagnosed lepromatous leprosy, or from the more serious kinds of borderline leprosy; those with bacillary-positive tuberculoid lesions passing through reactional episodes; leprosy patients suffering from acute intercurrent illnesses; and those requiring surgical treatment for residual paralysis or neuropathic ulceration. The standard treatment is dapsone, either by the mouth or by intramuscular injection. A long-acting sulphonamide has proved to be slower in action than dapsone and shows no superiority over dapsone in the incidence of acute exacerbation.

The anti-leprosy campaign has halved the prevalence of leprosy (to 2.3% in a population of 36,670) since 1949. The authors are satisfied with the system of survey and diagnosis of leprosy among school children, in whom indeterminate and tuberculoid leprosy is diagnosed at an early stage, and in whom cases of serious lepromatous disease are not seen. It would appear that adequate treatment of patients in the early stages of leprosy will prevent the development of bacilliferous forms. They give a warning, however, against premature optimism, especially in view of the fact that adults with unsuspected and untreated advanced lepromatous leprosy are now being discovered. They plead for a restoration of legal powers (such as insistence on a certificate of non-infectivity for food-handlers and others brought into contact with the public) both at the national and at the communal levels, and express some regret that the excellent methods of survey and control which were a feature of the French colonial system have been abandoned.

(From abstract by S. G. Browne in *Trop. Dis. Bull.*, 1966, **63**, 10, 1094-5.)

12. **Les classifications de la lèpre. Pour une classification immunologique** (Classification of Leprosy. Towards an Immunological Classification) by J. Languillon. *Méd. Trop.*, Marseilles, 1966, **26**, 2, Mar.-Apr., 115-23.

After a brief historical review of the main pronouncements on the classification of leprosy by international conferences (Manila, 1933; Cairo, 1938; Madrid, 1953) and of the systems proposed by the South American and the Indian leprologists, the author stresses the importance of the immunological basis for classification. While unimportant differences of opinion exist regarding the lepromatous and tuberculoid 'polar' types, controversy continues in respect of the precise nomenclature to be used for patients exhibiting lesions in the broad unstable intermediate zone. The author considers that the indeterminate stage is essentially transient, and that persistently achromic and inactive macules (sometimes referred to as 'indeterminate') should be regarded as scars indicating healed lesions. (This attitude will commend itself to most leprologists.)

Patients who have had adequate and regular treatment for 'polar' tuberculoid leprosy may safely be placed 'on observation without treatment'; but treatment for life is advocated both for those with lepromatous leprosy who have, necessarily, a persistently negative Mitsuda reaction, and for those with the type of borderline leprosy the authors refer to as 'interpolar' unstable leprosy.

(From abstract by S. G. Browne in *Trop. Dis. Bull.*, 1966, **63**, 10, 1095-6.)

13. **Critères de blanchiment et de guérison pour les lépreux** (Criteria of Arrest and Cure of Leprosy), by M. Labusquiere. *Méd. Trop.*, Marseilles, 1966, **26**, 2, Mar.-Apr., 130-33.

During the first Technical Conference of OCCGEAC (*Organisation de Coordination et de Coopération pour la Lutte contre les Grandes Endémies en Afrique Centrae*) held at Yaoundé in December, 1965, the crieteria of arrest and cure of leprosy as laid down by successive conferences and meetings of experts of WHO were reviewed.

It was agreed that since these criteria could not be—and have not been—applied to mass campaigns in the French-speaking countries of West Africa represented at Yaoundé, the statistics of patients who are still regarded as being under treatment for leprosy were inflated and misleading. It is therefore recommended that bacterioscopic examination of the skin and nasal mucosa in a patient who has had adequate treatment for tuberculoid leprosy—being both unnecessary and impracticable—should not be required before discharge. Clinical criteria of 'arrest' and 'cure' are laid down.

For 'malign' leprosy, which includes bacilliferous borderline leprosy as well as lepromatous leprosy, bacterioscopic examination in addition to clinical evidence is necessary to establish inactivity. While such patients may be declared 'arrested' (*blanchis*), a patient who has had lepromatous leprosy may never be said to be cured. (This forthright statement is open to criticism; it certainly errs on the side of caution.)

(From abstract by S. G. Browne in *Trop. Dis. Bull.*, 1966, **63**, 10, 1096.)

14. **Limited Multiplication of *Mycobacterium lepraemurium* in Parabiotic Culture, as influenced by Osmolarity of an Alkaline-Galactomannan Medium,** by L. Kato and B. Gozsy. *J. Bacteriology*, 1966, **91**, 5, May, 1859-62.

During a study of the factors affecting the multiplication of *Mycobacterium lepraemurium in vitro* it was found that limited multiplication could be obtained in a medium containing a muco-polysaccharide, galactomannan, at *p*H 8.4. This substance was not metabolized but appeared to be necessary for the high viscosity which it produced and upon which growth depended. The necessity for the high alkalinity has not been explained. The physical properties of the medium appeared to be as important as its chemical constitution. The optimum concentration of sodium chloride in the medium was 2.0%; and growth was further enhanced when *Torula minuta* was added to the medium, although In the presence of 2.0% Na Cl the torula cells were lysed. Organisms were inoculated into rats after 4 and 8 weeks culture and produced lesions typical of murine leprosy.

(From abstract by D. S. Ridley in *Trop. Dis. Bull.*, 1966, **63**, 10, 1097.)

15. **Vole Bacillus Vaccine as an Immunising Agent in Leprosy,** by S. Ghosh and R. Bose. *Bull. Calcutta School Trop. Med.*, 1965, **13**, 4, Oct., 134-5.

The demonstration that an extract of vole bacillus gave skin reactions similar to those given by lepromin (this *Bulletin*, 1965, v. 62, 1004) suggested that vole bacillus might be used as a vaccine in leprosy. Accordingly 10 guinea-pigs were vaccinated to see if the vole bacillus caused conversion of their lepromin reactions; all the animals were lepromin and tuberculin negative before vaccination. One month after vaccination they were retested. Nine animals had become lepromin, but not tuberculin, positive (the 10th animal died). After a 2nd vaccination they gave strong lepromin reactions. Four unvaccinated control animals remained lepromin negative after repeated testing.

The conclusion is drawn that vole vaccine might be a useful immunizing agent in leprosy.

(From abstract by D. S. Ridley in *Trop. Dis. Bull.*, 1966, **63**, 10, 1098.)