

Abstracts

1. Vaccination Against Experimental Infection with *Mycobacterium leprae*, by CHARLES C. SHEPARD.

Am. J. of Epid. 1965, 81, 2, 150-163.

There was no evidence of post-infection immunity in experimental infections of mice with *Mycobacterium leprae*. Mice bearing infections with ten or more *M. leprae* in one rear foot pad were just as susceptible as uninoculated controls to infection in the other rear foot pad.

Several Mycobacterial species were tried as heat-killed intraperitoneal vaccines against *M. leprae* infections of mice and compared to living BCG. Tubercle bacilli gave the most protection, but there was evidence of moderate immunity with *M. marinum*, the QT isolate (a member of Runyon's group III), *M. lepraemurium*, and *M. ulcerans*. Living BCG gave the best results.

BCG given in a small dose into the foot pad to be challenged gave a high level of immunity in one experiment, but was not very effective in another.

The intravenous route was the most favourable one for BCG. The intracutaneous injection gave better protection than the intraperitoneal. The subcutaneous route seemed poorest.

When the bacilli were incorporated into Freund's adjuvant their subcutaneous immunogenicity was increased. Repetition of intracutaneous vaccine increased the protection.

The smallest dose of BCG tried intracutaneously was 1×10 bacilli and it gave clear protection. Increasing doses up to 5×10 gave increasing protection. Fresh Danish BCG vaccine in standard concentration was given in a dose of 0.01 ml intracutaneously (about 1.5×10 bacilli), and found to give clear protection.

2. Lactate Dehydrogenase Activity in Mouse Liver Infected with *Mycobacterium lepraemurium*, by

P. C. WONG, MELANIE CHEN, GRACE CHUN TIE, and L. MA, of the Dept. of Path. & Bact. and Dept. of Chemistry, Chinese University of Hong Kong, *Jour. of Trop. Med and Hygiene*, May 1965, 68, 5, p. 110-112.

The authors report that a survey of the literature shows that enzyme studies in leprosy have been very little studied. They found that the lactate dehydrogenase is higher in the liver tissue of mice after the fifth month of infection with living *Mycobacterium lepraemurium* as compared with mice inoculated with the inactivated bacillus. They think that this change is probably associated with degeneration of the liver caused by the bacillus, and note that the drug Suramin, which enhances infection by the bacillus in mice, has little effect on the enzyme level.

3. Effect of Cyclophosphamide and of RO 4-6467 on Leprosy, by E. J. SCHULZ and G. FALKSON is a letter to the Editor of the *Lancet* referring to their first report on this matter p. 1138, *Lancet*, 2.

The report was of suppression of acute reactions in five out of eight patients with leprosy who were treated with large

doses of intravenous cyclophosphamide. They had found that erythema nodosum (ENL) occurred in 32 per cent of their patients with lepromatous and borderline leprosy, usually about 16 months of the initiation of treatment with dapson. They found that this reaction is difficult to control, and even under long-term corticosteroid treatment may persist for years.

The authors report that they have now given a further nine patients with ENL small doses of oral cyclophosphamide (100 mgm. daily for from 98 to 146 days) and in none was there any significant improvement.

They also gave RO 4-6467 to six patients with ENL in a dosage of 50 mgm. daily by mouth, the total dosage varying from 17.85 g. to 37.8 g. Prednisone was given, as well as the basic anti-leprosy treatment. The latter was also given. No significant improvement was noted in any case. The authors conclude that low oral doses of cyclophosphamide and of RO 4-6467 are ineffective in controlling ENL.

4. Tratamiento de los Estados Reaccionales en la Lepra y en la Oncocercosis (Treatment of Reactional states in leprosy and in Onchocerciasis),

M. SALAZAR MALLÉN, *Gaceta Médica de México* 94, 10, 972-979, Oct. 1964.

This reports on investigation carried out in Mexico under the Dept. of Public Health. The author comments that diethylcarbamazine (Hetrazán) has not found general acceptance for use in onchocerciasis because of severe reactions. The author finds that this therapeutic shock called Mazzotti's reaction has a toxic nature and results from the release of serotonin. There is increased serotonin in the jugular blood in the early part of the reaction associated with erythema and itching. The late reaction of tissue destruction, associated with oedema, fever, malaise, and the appearance of C-reactive protein.

Methysergide has been used with success to avoid or diminish the skin symptoms, and corticosteroids (triamcinolone and indomethacin) to control the late reaction.

In leprosy sulphoae-treated as well as untreated patients have acute reactions with arthritis, erythema, and fever. Some have purpuric lesions ending up in necrosis. In these reacting patients corticosteroids cannot be recommended because of a rebound phenomenon which is much worse than the reaction itself. The author found in his 14 lepromatous patients there were six who had Lucio type, and all 14 showed *Mycobacterium leprae* in the white cells of the blood, as well as C-reactive protein in the blood serum. Indomethacin in doses of 5 mgm. of body weight reduced or abolished the arthralgia and general symptoms, without affecting the erythema or the purpuric spots. When triamcinolone in doses of 1 to 2 mgm. were injected under the lesions the purpuric spots rapidly diminished without necrosis.

The use of DDS was continued throughout in all patients without untoward results. The reaction did not seem resulted from the use of chemotherapy.