

## Sungai Buloh Archival Records

The records at Sungai Buloh (formerly Sungei Buloh) are still stored in the Research Unit, in filing cabinets, where they were created. This research unit was established in 1950. The report for the year indicated that the investigations there were to focus on the assessment of therapeutics. This work was begun by F S Airey of the Colonial Research Services. He left in 1952, and the laboratory was reopened in 1957, when Dr J A McFadzean of the Medical Research Council, UK, was seconded to Sungai Buloh. In 1959, Dr McFadzean was replaced by Dr M F R Waters. Waters was there until 1962, when Dr J H S Pettit took over. Dr J M H Pearson joined in 1964, and Waters returned in 1966 to remain as Director of the Unit, until 1976.

From 1959 to 1976, Sungai Buloh and its Research Unit made its full impact in the field of international leprosy research. Much of the clinical work was carried out in Sungai Buloh, while the laboratories of the Institute of Medical Research in London provided the facilities for the experimental and academic part of the projects. Specimens and samples of sera as well as fresh tissues and fixed biopsy material were flown to London almost every week.

The records for this period, and the records for all the associated trials, are intact, but uncatalogued:

There are two four-drawer filing cabinets filled with titled files. A list of those files is provided here. Some details of contents of the files are included. For example, some correspondence may be cited. Arrangements are currently being undertaken for an inventory to be made.

### Filing cabinet 1

#### First Drawer

- *Folder: Animal Results (Histology) Hamster, mouse and monkey*
  1. (Last Gibbon 26/6/76)
- *RU/KK/A2 "DDS Sensitivity Results Thiambutosine: Experiments Results etc"*
  1. Letter to Dr Rees from Dr Siti Zaharah Bt Seman 21/8/90 re "DDS diet [being] unacceptably high"
  2. Rees to Azman bin Abdul Majid 26 July 1990
  3. Azman to Rees 14 August 1990
  4. A B G Laing to Mrs Pat Christie, 29 th April 1980
  5. NIMR letter from Mrs Christie to Dr A B G Laing query on one foot pad result 24/4/1980
  6. From Rees to Waters 29/1/1979 re skin biopsy Note: "Fully resistant in mice fed .0001 and .001% DDS in diet, 3/12 footpads positive growth in group fed .01% DDS"
  7. Rees to A B G Laing 21/9/1979 "A footpad experiment was put up here on 27/9/78 on this histologically proven LL patient. The result of the experiment shows partial resistance at .001% to DDS and sensitive to thiambutosine."
  8. Rees to Laing 16/5/1979 "Mouse footpad data on patients relapsing following release from control" "We are actively engaged in detailed analyses of the release from control series, including the checking of the computer data sent by Kah Fah on Form B. We urgently need to have checked which patients

among those relapsed, were inoculated into mice for checking their dapsone sensitivity. This data will be in the LRU mouse footpad experimental books and we would like you to personally check these and send us the data, as soon as possible.” (dates 1962 –1978)

*Further Short Memos:*

9. “Interim report on mouse passages from nerve isolate SBL 15617 Trial 7, biopsy 22.11.76”
10. “Final report on mouse passage from isolate from SBL 5665, Trial 7, biopsy 1.3.76”
11. “L 12351 Trial 7, 7.5 yr rifampicin alone, biopsies 1.6.77
12. “SBL 16116, Trial 10 years dapsone, biopsies 20.4.77”
13. “SBL, Trial 7, 5 years rifampicin + Ciba 1906, biopsies 23.5.77”
14. “SBL 8865, Trial 7, 5 years dapsone, biopsy 20.4.77”
15. “SBL 16073, Trial 7, 5 yr rifampicin + Ciba 1906, biopsies, 13.6.77”
16. “SBL 16305, Trial 7 years Dapsone, biopsy 15.7.77”
17. “Fresh tissue 52389 21 st march 1977, Trial 7, 5 years Rifampicin + Ciba”
18. “Fresh tissue 10904, 28.6.77 Trial 7, 7 1/2 years clofazimine”
19. “Fresh tissue 14851 7 th March 1977, Trial 6, 5 years”
20. Rees to Laing and cc to MFR Waters 14/10/1977 “Results of Trial 6, 17 years DDS ? just relapsing. Biopsy 16/8/1976 ( “Skin in untreated mice 0/8; In mice fed .0001% DDS 5/12; Nerve 0/12; Bacilli from the DDS treated mice have been passaged to a group of untreated mice and DDS treated mice at .01% and 0001%” )
21. Rees to Laing cc Waters 14/10/1977 ( “Results of mouse passage strain from SBL 9730 Trial 7 (5 years of rifampicin) of biopsy taken 16 th June 1975”)
22. Rees to Waters 24/3/1976 ( “Results SBL 12581, biopsies 18-8-1975 Trial 7A, baseline”; “M leprae from skin fully resistant to 0.01% DDS in mice. Data on growth of *M leprae* from full screen of tissue will be reported later. Incidentally, this patient is not on our master list of LRU patients with prima facie evidence of DDS resistance, nor do we have a card. How is this and could you please send a card.” )
23. Waters to CIBA 30/1/1974 re CIBA 1906

Typical

1. Rees to Waters 23/10/1974 “Results 14256, Trial 6” “This patient’s bacilli were fully resistant to the two concentrations of dapsone, I e .01 and .0001 % DDS in the diet
2. Rees to Waters 25/7/1973 re supply of CIBA “pure substance” on a regular basis
3. Waters and M K Bhojwani “Patient 13108 Wong Peck Seck” 24/7/1973 “these results show that this patient is fully resistant to dapsone and is also fully resistant to thiambutosine (and also thiacetazone).”
4. MFR Waters – R J W Rees 2/6/1973 “DDS sensitivity results – patient 9027 and 16453” “I am disturbed at the low number of takes that we

have been getting in these two experiments at the LRU ... Are you having similar patchy takes? Could we discuss this during your visit?"

5. Rees to J M H Pearson 22/5/1972 ( "DDS sensitivity SBL 5768" My experiment 1576. Trial 6 patient, sensitivity test done on biopsy taken 9-8-71 as a baseline for patient transferred to trial 15. Bacilli fully resistant to all doses of DDS including 0.01%")

- *File: Experimental Animals*
  1. Rees and Waters Draft "The Value of Experimental Animal Studies to the Problem of Human Leprosy"
  2. Inoculation of Adult Gibbon
  3. Corres Janet Niven 26 April 1961 from Waters
  4. Hamsters
- *Folder: "Experimental methods"*
- *Folder "Animal – Hamsters" (1962 – 1978)*
  1. Draft "Inoculation of the Golden Hamster with Human Leprosy Bacilli"
- *Folder: Animals – Gibbons (1961 – 1976)*
  1. "Gibbon Experiment" started 1961
  2. draft "Successful Inoculation of the White-Handed Gibbon with *M leprae* of Human Origin. Bacteriological and Histopathological Findings Suggesting 'Pre-Lepromatous' Leprosy. Preliminary Findings"
- *Folder: Animals – Mice*
  1. Copy of publication from *Nature*
  2. "Unexpected High Incidence of Tumours in Thymectomized Mice Treated with Anti-Lymphocytic Globulin and *Mycobacterium Leprae*" by F C Chesterman, J M Gaugas, M S Hirsch, R J W Rees, Jennifer Harvey, C Gilcrest 221.5185 (March 15 1969): 1033-36
  3. "Lepromatous Leprosy in Experimental Animals Inoculated with *Mycobacterium Leprae*" Rees and Waters 1966 – 1982
- *Folder: "Footpad Inoculation Procedure"*
- *Folder: Animal House (1967-1981)*
- *Folder : Dr Karat (Karagiri)*
  1. Correspondence with Dr Karat and Rees re CIBA mice
  2. Trial D (To assess the therapeutic effect of dapsone 5mg compared with 100 mg daily, in lepromatous leprosy" protocol included
  3. Misc Corres with Karat (Church of South India Hospital) Bangalore South India
  4. (Annual Report of the Radda Barnen Project for the Year 1970, Church of South India Hospital Bangalore – 1A" December 15, 1970
- *Folder: C K Job*
  1. General Corres (1966-1969) re visit and supply of mice
- *Folder: Dr J P Deva "Eye Project" (1975)*
- *Folder: Debrisan Trial (1979)*
  1. "Controlled Trial of Debrisan (Dextranomer) in the Treatment of Trophic Ulcers in Leprosy Patients in Malaysia (Vimala Sinnadurai and A B G Laing)
  2. Debrisan Trial correspondence with Pharmacia (Sweden) (1978)
- *Indonesian Rifampicin Drug Trial (1978-1979)*
- *ABG Laing*
- *G D Ballantyne (Hong Kong)*

- *Sulphone Resistance - Sarawak*
- *Kampong Melayu*
- *Lepromin*
- *Giant reactors Tuberculin*
- *Mycobacteria*
- *Morphology of M leprae*
- *Mycobacterium Ulcerans*
- *Slides and Staining of Smears*
- *Fungus Culture*
- *Mycoplasma*
- *M leprae Culture*
- *Schwanoma Lepromin*
- *DDS Blood and Urine levels*
- *Blood Sugar*
- *Serum Hydrocortisone Levels*
- *Serum Proteins*
- *Breast Milk Sulphone Level (Corres with Dr Pedley, Nepal)*
- *B671 and Nephrotic Syndrome*
- *Rifampicin Antibody Studies*
- *B663 Geigy Correspondence (Re London panel on B663)*
  1. Letter from Waters to Dr Th Ahrens, Switzerland 4 May 1968

“Within the last month I have studied two sulphone resistant patients who on B663 100mg daily for six days a week have both developed mild to moderately severe ENL. However I do not remember having seen ENL develop in sulphone-resistant patients treated with 300 mg B663 daily and my colleague Dr John Pearson, is currently analyzing our records. As you know, Dr Pettit commenced the studies on the use of B663 in the treatment of sulphone-resistant leprosy in 1963. Dr Pearson joined him at Sungei Buloh early in 1964 and since Dr Pettit left in 1966 Dr Pearson has largely taken over our studies of drug resistant leprosy. His experience is probably at least as great if not greater than any other worker on the value of B663 in the treatment of sulphone-resistant leprosy and I am sure that he could make a most valuable contribution to your proposed symposium.”

2. Photos of the panel in London ( Browne, Vischer, Waters, Pearson, Barry, Fowler (Geigy), Helmy, Rees)
  - *B663 in Tuberculoid Leprosy*
  - *Long Acting Sulphonamides*
  - *Capreomycin*
  - *Fanasil*
  - *Urine – CIBA Absorption test*
  - *Medical Progress*
  - *Kota Bahru Study*
  - *PK 4 Infectivity and epidemiology*
  - *Genetic Studies*
  - *M leprae in circulating blood*
  - *Fresh Tissues*

## Second Drawer

- *Dr Laing - Miscellaneous - Personal Correspondence*
  - *Dr Waters Personal Correspondence (individual cases and queries)*
  - *Correspondence with Dick Rees general*
  - *Miscellaneous: British High Commission, British Council, ICI*
  - *Miscellaneous A-D E-K, ... General (Corresp eg 1 st International Council on Chemotherapy, Manila Jan 1977)*
  - *Correspondence Dr Ridley – draft of foreward to Ridley’s book March 1976)*
  - *Correspondence D S Ridley Biopsies*
  - *Classification of Leprosy*
  - *Correspondence with Dr John Petit*
  - *Dr Charles C Shepard*
1. “Abstracts Symposium on Sulfones (Sponsored by the US Japan Cooperative Medical Science Program, Office of International Research National Institutes of Health San Francisco California May 10-11, 1967) Office of International Research National Institutes of Health Bethesda, Maryland
  2. Agenda for Workshop on Immunotherapy of Human Leprosy Sponsored by US Leprosy Panel US-Japan Cooperative Medical Science Program, Geographic Medicine Branch, National Institute of Allergy and Infectious Diseases, National Institutes of Health held at Centre for Disease Control, Atlanta, Georgia 30333 September 28, 1972
  3. *International J of Leprosy* (Corres with Esmond Long re Bergen Congress; copy of *Honolulu Star-Bulletin* Oct 245, 1975 “Bacillus Grown in UH laboratory – Leprosy War Breakthrough” by Tomi Knaefler)
- *Correspondence with Dr Stanley Browne*
  - *Neurosurgical Unit*
  - *Leprosy Review*
  - *Sir Max*
  - *Buffalo project*
  - *New Guinea project*
  - *Muscle Project*
  - *Third Medical officer*
  - *BMB Research in Diseases of the Tropics*
  - *Leprosy Scientific Memorandum*
  - *International Leprosy Colloquim*
  - *Leprosy Committee*
  - *Leprosy Enactment and Control Scheme*
  - *Medlers Search*
  - *DDS Tissue Level Pharmacology*
  - *Sir Peter Medawar*
  - *NIMR London*
  - *MRC Headquarters*
  - *MRC agreement with Ministry*
  - *MRC Annual report and TMRB*
  - *IMPREST A/C*
  - *Travel Mr Wittingham*
  - *Director of Medical Services*

- *Ministry of Health*
- *Director IMR*
- *Institute for Medical Research*
- *Annual Report*
- *Quarterly Report*
- *Finance*
- *K C Dat/ Packers*
- *Correspondence with MS and LS*
- *Staff*
- *Laboratory apparatus and equipment*
- *Correspondence with Government Medical Store*
- *Purchase*
- *Research Unit Transport*
- *Custom*
- *Library*
- *Request for Reprints*
- *General SBL*
- *Open day*
- *Third Drawer*
- *Pakistan Conference*
- *Inpatient - Outpatient – Leprosy*
- *Special Patients*
- *Outpatients – Others*
- *Patients for Discharge, Males*
- *Patients for Discharge – Females*
- *Treatment of Malaria*
- *Gurkha – Corres Army*
- *Specimens from Other Department*
- *Post Mortems*
- *Nasal Secretion*
- *Leprosy Mission*
- *Aborigine Hospital*
- *Malayan Medical Association*
- *Associations of Physicians College*
- *Acid Fast Club*
- *Royal College of Physicians*
- *Royal Sc Trop Med and Hyg of Malaya Interferon*
- *WHO THELEP MDT Regime*
- *Leprosy in Theory and Practice 3 rd edition*
- *Malayan Congress*
- *9 th Interantional Congress*
- *Second World Congress*
- *Singapore Malayan Congress*
- *Third World Congress Brazil*
- *WHO Symposium Malarai Rabat*
- *Visit Abroad South East Asia*
- *Washington Meeting*
- *Mexico Congress*
- *Visit to India*
- *Mal Soc Parisitology Trop Med*

- *Second Regional Conference Psychotropic Medicine*
- *Royal College of Pathologist*
- *Dermatology Society*
- *Malaysian Society of Health*
- *MRC Superannuation*
- *MRC Scientific and Progress Report*
- *MRC Establishment Code*
- *Salaries*

### **Bottom Drawer**

- Case records for various trials
- *Case records - 12 pigeon holds full of case records*
- *Eight books full of biopsy indeces from 1966*

### **Second filing cabinet**

- *ENL General*
- *B663 in ENL*
- *Thalidomide in ENL*
- *ENL Studies*
- *Indomethacin in ENL*
- *Enlimide in ENL*
- *Immunology in ENL*
- *DNCB*
- *Project 3*
- *Skin Graft*
- *Lymph nodes*
- *Renal and ELN Co2 Snow Biopsies*
- *Amyloid Disease*
- *Transfer Factor*
- *Oxford Nerve Project*
- *Dr McDougall Post Mortem*
- *Muscle Biopsies from Leprosy Patients*
- *P S 1 Kuim Serology*
- *PS 5*
- *P S 4 A*
- *P S 4 Blood and Urine Sulphone Level*
- *Oxford Histology Reports B663*
- *Macrocyclon Trial II*
- *Etisul Trial*
- *Trial IVB RO 4*
- *Resistance to Sulphones*
  1. "Studies of rate of relapse of SBL patients"
  2. December 1970 letter from Pearson to Rees "Incidence of DDS Resistance in Sungei Buloh)" "Your tape says that the statistic data we need is from patients who were admitted during the period 1949 to 1964 (7 years ago) this being our shortest period for DDS resistance to emerge. You must be aware however that patients were treated with DDS from date of admission, and the majority

of our resistant cases are patients who were initially admitted in the pre-sulphone era. This means that we will be estimating the rate of emergence of resistance not in all patients, but in patients who have been treated with DDS from the moment their leprosy was diagnosed. This is of course a significant difference, and equally is probably the most important figure for us to aim at. But I wanted to confirm that this was indeed the overall aim of the study."

3. Letter from Molesworth 29 th December 1970 from Blantyre, Malawi to M Waters
4. Waters to Rees 11 Jan 1971 reports Molesworth's letter and adds :

"In going through the old treatment books, John has found some patients grouped together in the sulphone injection list which are said to have also been receiving TB1 although we cannot find any record of the TB1 dosage. What may be of particular relevance is that Nadarajah 5075 was one of these! This explains his poor response to Ciba in 1961. We shall see if we can get the complete list of patients previously treated with TB1 as this could be important is any have already or do in the future develop sulphone resistance. Obviously treatment with thiambutosine (in addition to Rifampicin or B663) may be of little value although your drug sensitivity tests may supply the guidance on this point.

In view of what the Russians are saying about combined therapy it is interesting that David had the impression that combined therapy was slightly better than DDS alone."

5. *Dr Bhojwani*
6. Pearson to Rees 25 th Nov 1970 ( "I have been reviewing our figures , and I am sure you will be interested to learn that we now have 39 pateints in trial 7 (ie resistant to various drugs); 31 are proved or higly probably sulphone resistant cases. There are 38 patients in trial 6 the vast majority of whom are suspected of sulphone resistance .... )
7. 17 Dec 1970 ( Pearson to Rees "I have just been checking the records kept in the East and central section treatment centers, and much to my surprise (sorry!) they have antileprosy treatment recorded in large record books dating back to 1848, and so far as I can judge, pretty complete. In most books each patient has his injections or tablets for a year recorded over one or two pages, so it is by no means an impossible task to abstract this data on to record cards." )
8. 4 th Sept 1972 ( Pearson to Rees: "I think the enclosed Photostat is fairly self explanatory it gives data of 6 pairs of patients where there is a reasonable suspicion that they have acquired their sulphone resistant leprosy from other resistant cases sharing the same quarters for a period of several years.)
9. Rees to Molesworth 6 July 1973 (" The analysis showing a very significant correlation between dapson resistance and a previous history of the patients receiving sulphetrone. The sulphetrone era was clearly in your time and particularly involved patients in the period 1949-52. .... ")
10. Molesworth 11 July 1973



11. Rees to Waters 18 th July 1975 ( DDS resistance, Malaysia: “As I have been recently preoccupied with the DDS resistant picture in Ethiopia and as it has now reached epidemic proportions, means of preventing it were paramount. This has made me realize that at least I have only considered the problem in Malaysia as one of evolution and not prevention! As this has brought me up with a jolt, I would like your immediate reaction and if you too feel we must consider prevention, add your ideas on how this could be achieved.” )
12. They discuss “dual” or combined therapy July and August 1975
13. Primary resistance 17 Jan 1980 Laing to Tan Sri Dr Rajah Ahmad Noordin

- *Resistance to other Drugs*
- *Trail 7 Long term follow up*
- *Trail 9 Low Dosage B663*
- *Trail 10 Small doses of DDS*
- *Trail 11*
- *Trail 12*
- *Trail 13*
- *Trial 14*
- *Trail 15 Low dosage Rifampicin*
- *Incidence of Sulphoen resistance in SB*
- *Six year follow up*
- *Ten year follow up*

## **Second drawer**

- *CIBA 1906 in Leprosy Treatment*
- *Cutaneous Allergic Vasculitis*
- *Trial 16*
- *Trial 17*
- *Cecil Loeb*
- *Treasury/Ministry Circulars*
- *Income Tax*
- *Immunology Dr Wright*
- *Current Therapy Dr Conn*
- *Immunological Diseases Dr Turk*
- *Thalidomide in Nephrotic Syndrome Dr Robinson*
- *Trial 7B*
- *Trial 18*
- *Thiacetazone*
- *Thaglutemide*
- *Open Day 1986*
- *3 rd drawer*
- *Biopsy Results Dr Ridley*
- *Fresh Tissue*
- *Corres with Dr Rees*
- *Miscellaneous Correspondence, Laboratory Equipment, Finance*
- *Gurkha staff*
- *Petty cash well wishers, Waters personal*
- *Corres McFadzean, Ross Innes, Dr Pettit, Dr Bunji*
- *Ministry, MRC*

## **Bottom Drawer**

- *Dr Waters Immunology of ENL (Assessment)*
- *Dr Waters B671 Trial cases*
- *Trial 9*
- *Trial 12*
- *Trial 13*
- *Trail 14*
- *Trail 15*
- *Trail 16*
- *Trail 17/18*

*45 Metal Cases of Slides of Patients for Various Trails, Reactions, Macrocyolon trial, B663 and B671 in ENL, Lymph /node, 10 year follow up*

*3 /21 drawer cabinets of specimen slides from 1966*