CONTENTS

IMR introduces computer ........................................ 1
Collaborative Research .......................................... 1
Detection of Hepatitis-Associated Antigen .................. 4
Abstracts of some recent IMR publications ................. 7
The Malaysian National Medical Bibliography ............ 10
National Workshop on the Care and Management of Laboratory Animals ............... 12

LEGEND FOR COVER

1. This is a case of marasmic kwashiorkur. The condition is brought about by prolonged deficiency in both protein and calories.

2. This shows a homogeneous leukoplakia of the tongue with a uniform white appearance. This condition is precancerous.

3. Photomicrograph showing a moderately well differentiated squamous cell carcinoma invading the subepithelial connective tissue with an accompanying mild non-specific inflammatory reaction.

Published by The Institute for Medical Research, Jalan Pahang, Kuala Lumpur 02-14, Malaysia.

Price $1.00
IMR INTRODUCES COMPUTER

The IMR provides various diagnostic services as well as training for doctors specializing in certain fields and for technologists. Research, however, is its main activity. In the year 1980, the staff of the IMR were engaged in 165 research projects in 13 disease-orientated programmes. The IMR is the National Centre for Tropical Medicine for the South-East Asian Ministers of Education Organization (SEAMEO) and also the WHO Centre for Research and Training in Tropical Diseases for the Western Pacific Region.

It was recently felt timely to introduce a computer to the IMR. The computer has the capability of handling large volumes of data, processing them, analysing them statistically for in-depth research and drawing conclusions, as well as the capacity to store and retrieve information as required. The WHO through its Special Programme for Research Strengthening Capability supported the establishment of a computer unit in the IMR. A MicroNOVA MP-200 mini-computer 64k bytes, a visual display unit and a matrix printer were purchased. On the 10th October 1980, the Minister of Health, the Honourable Tan Sri Chong Hon Nyan officiated at a ceremony to launch the computer facility.

The main strategies undertaken prior to the launching of this facility were (a) re-orientation of the senior staff in biostatistics and biocomputation methodology, (b) making provision for personnel to operate the computer unit, (c) training of 18 research officers in the FORTRAN computer language and in the operation of the computer for research purposes, and (d) employing an expert in biocomputation methodology for a period of 6 weeks to assess the use of the computer by each division of the IMR.

The computer unit will become part of the proposed Division of Epidemiology and Biostatistics, and it is hoped that with further development, a biometrician, a program analyst, and an operator will be employed to provide biostatistical services.

COLLABORATIVE RESEARCH

THE "TORCHES" (CONGENITAL DISEASES) PROGRAMME

The IMR will soon be collaborating with the Family Planning Board, the Maternity Hospital and the Paediatrics Department of the General Hospital, Kuala Lumpur and the Universiti Kebangsaan in a research project which constitutes the third phase of the TORCHES Programme.

Of all the infections suspected of being able to cause congenital malformation, toxoplasmosis, rubella and cytomegalovirus (CMV) infection appear to be most important (White and Sever, 1967). Herpes simplex virus (HSV) infection and syphilis may also cause congenital defects but much less frequently. Suspicion has also been attached to chicken-pox, measles, mumps and hepatitis, but a cohort study for congenital malformations following these infections (Seigel, 1973) failed to show any significant causal relationship.

The term "TORCHES" has been coined to represent the following congenital diseases: TOxoplasmosis, Rubella, Cytomegalovirus infection, HERpes simplex and Syphilis. The TORCHES programme is an antibody survey carried out collaboratively by Winnie Cheah and later by J.W. Mak (toxoplasmosis), Dora S.K. Tan (rubella), H. Stern (CMV and HSV), and K.D. Sukumaran (syphilis) in three phases on:
(i) women of child-bearing age, 14 to 44 years old

(ii) mentally and physically defective children, 0 to 5 years old and comparing them with normal children of the same age

(iii) pregnant women throughout their course of pregnancy and the babies born to those women who undergo primary infection

WOMEN OF CHILD-BEARING AGE.

This study has been completed and published (Tan et al, 1976). 365 women of child-bearing age of whom 181 were nurses and 184 were members of the general population were examined.

The overall frequency of antibodies in the two groups of women examined was 23% for toxoplasmosis, 64% for rubella, 83% for CMV infection, 79% for HSV and 5% for syphilis. No significant differences were found between the nurses and the women of the general population except in the case of toxoplasmosis and syphilis. Toxoplasmosis antibody was present in 18% of the nurses and in 28% of the general population, and syphilis antibody was present in 1% of the nurses and 7% of the general population.

The distribution of antibodies was similar for all the three racial groups namely Malay, Chinese and Indians, except for toxoplasmosis; the frequency of the antibody was almost twice as great in the Malay women as in the Chinese. The number of Indian women tested in both groups was much smaller than for the other racial groups and this might at least partially explain the finding of a generally lower frequency of antibodies in these women.

The infection rate for toxoplasma was highest in the Malay women, both nurses and general population, confirming the earlier studies carried out by Tan and Zaman (1973). This could be attributed to the larger number of domestic cats kept by the rural Malay population and their close association with them. Although pigs are known to have the highest toxoplasma infection rate among domestic animals and the Chinese consume more pork than any other meat, they seem to cook their meat well and thus avoid infection by this route. Since nurses are not likely to be exposed unusually to toxoplasmosis in hospitals, the distribution of antibodies among the nurses remains the same as in the general population.

The frequency of rubella antibody was not markedly different in the Malay and Chinese nurses, but in the general populaton it was significantly lower in the Malays. The most probable explanation is that the Malays live mostly in rural areas which are much less congested, while the Chinese abound in the urban areas which are more densely populated and offer greater opportunities for the spread of the infection. On the other hand, the Malay nurses would be exposed to much more infection in their hospitals and clinics than in the rural areas from where they come and would soon equal their colleagues in the frequency of rubella antibody.

Our finding of rubella antibody in 64% of women of child-bearing age in Malaysia agrees with the previous study by Lam in 1972 (60%). These figures are low when compared with reports from most western countries. Antibodies have been found in 80% or more of adult women in European countries, the U.S.A., Australia and Canada, as well as in Singapore and some South American countries. However, much lower rates have been found in the rural areas of Japan, Trinidad, Jamaica, Panama and Peru, as well as in Hawaii, and Thailand. The possible reasons suggested for the lower levels of infection, i.e. less dense population and geographical isolation, are not applicable to Kuala Lumpur. Another possible explanation is the tropical climate common to most countries with low rubella antibody rates which might make respiratory spread of a labile virus more difficult.
Contrary to expectation, a population with low frequency rubella antibody is no more susceptible to rubella outbreak than one with immunity levels of 80% and above. Moreover, outbreaks in these countries have been associated with relatively low attack rates, and a correspondingly low incidence of congenital anomalies in the population. Thus although an outbreak of rubella occurred in Singapore during the period November 1969 to July 1970, Malaysia was completely unaffected.

CMV and HSV infections are both obviously widespread in Malaysia, the frequency of antibodies in the adult population being similar to that found in other countries. Despite the prevalence of infection, cytomegalic inclusion disease and the various clinical manifestations of herpes simplex have not been frequently found in Malaysia, either because they escape recognition or because they are mostly subclinical.

Out of 200 serum specimens examined for syphilis, 5% were found positive. However, this incidence must be interpreted with caution. Although there is a global increase in the incidence of venereal disease, yaws is still prevalent in Malaysia. The two organisms, *Treponema pallidum* of syphilis and *Treponema pertenue* of yaws are morphologically indistinguishable and both diseases induce the formation of indistinguishable and treponemal antibodies. Only an in-depth epidemiological study can establish what proportion of the above positive reactors are due to yaws and what proportion due to syphilis.

MENTALLY AND PHYSICALLY DEFECTIVE CHILDREN

This part of the study has just been completed and the results are being currently analysed. Mentally and physically defective children, 0 to 4 years of age, were examined for antibodies against each of the five TORCHES diseases and the results, compared with those of normal children in the same age group and of cord blood of normal neonates. Specific IgM levels for CMV and toxoplasmosis were also examined in children 0 to 4 months of age.

Preliminary findings seem to indicate that of all the five TORCHES diseases, rubella is the most important cause of congenital malformations, particularly bilateral cataract and congenital heart disease, more so in combination as a syndrome than separately.

PREGNANT WOMEN

The objective of this phase of the programme which will be launched soon, is to (i) to conduct a ‘prospective’ study in pregnant women on the incidence of congenital malformations in babies born to those who had undergone primary infection with any of the TORCHES diseases, (ii) to treat or follow up for 2 to 3 years, children born to positively reacting women in order to institute early remedial measures, wherever necessary and possible.

Blood specimens will be taken by the staff of the Family Planning Centre from the mother (i) as soon as pregnancy is detected (before the 12th week) (ii) at the 12th week and (iii) at delivery, and from the baby (cord blood) at the time of delivery. The specimens will be tested for antibodies to the five TORCHES diseases. Babies born to positively reacting women will be treated immediately if any congenital malformation is apparent, or followed up by the Paediatric Department in order to detect defects which may appear later in life e.g. deafness, mental retardation and congenital heart disease. The period of study will take at least four years.

REFERENCES


**DETECTION OF HEPATITIS-ASSOCIATED ANTIGEN**  
**(AUSTRALIA ANTIGEN)**

**A SIMPLE MICRO-HAEMAGGLUTINATION TECHNIQUE**

Serum Hepatitis is common in developing countries. The carrier state occurs in 3 to 7% of normal blood donors in Malaysia, depending on the method used for its detection. The disease kills or incapacitates sufferers by an acute illness or through a chronic hepatitis which may lead to cirrhosis or even cancer of the liver.

Since the discovery by Blumberg et al (1967) of the Australia Antigen (Hepatitis Associated Antigen — HAA), a number of tests for the presence of this agent in blood have been developed. The original radial immunodiffusion technique (Mancini) was of low sensitivity and took 2 to 3 days. A modification of this technique using immunoelectro-osmophoresis is faster (1 to 2 hours) but still of low sensitivity, so that far too many positive cases are missed by this technique. This technique is however still employed widely in laboratories and blood banks throughout our country. However, especially in the case of blood donor screening, its cost effectiveness is doubted. Radioimmunoassay is of high sensitivity, and the newly developed ELIZA technique even more so, but both methods are not readily available except in special centres, and cannot be recommended for routine use in blood donor screening. The complement fixation test (CFT) is quite sensitive and fast but is unsatisfactory because of the presence of a prozone phenomenon and confusion by complement-fixing antibody to the HAA in some sera (anti-complementary sera.)

A rapid test with a sensitivity nearly comparable to the CFT, using agglutination of latex particles coated with the antibody to the HAA — similar in principle to the latex agglutination tests for rheumatoid factor and for chorionic gonadotrophin in the urine of pregnant women — has been developed and found very satisfactory. A modification of this technique using human group "O" red cells coated with HAA was found satisfactory for detecting the antibody to HAA. This is called the haemagglutination test. If the red cells are coated with the HAA antibody, they can be similarly used for detecting HAA. If the red cells used are tanned, fixed turkey erythrocytes coated with the purified antibody to the HAA, they settle faster since turkey red cells are nucleated and therefore heavier. This is the principle underlying the passive haemagglutination technique available commercially (HEPATEST (Wellcome), AUSCELL (Abbott), RAPHADEX (Johnson & Johnson) and HEPANOSTION (Organon)). The sensitivity of this test is comparable to that of radioimmunoassay, and results are available within an hour.

Recently, Wiseman in the Sheffield Blood Transfusion Centre modified the Hepatest technique using Terasaki plates instead of microtitre trays as originally described. This results in a considerable saving of reagents — the cost per test being reduced by 84% without loss of sensitivity and reliability. Addition of turkey serum to the buffer used further improves the test system in that false positive results are reduced a great deal.
Because of the potential for wide usage of this simple and cheap microtechnique in this country, especially for massive screening of blood donors, the modified Hepatost technique is described here in detail. Any laboratory that may like to start this technique is welcome to seek advice from the Institute.

**PRINCIPLE OF THE TECHNIQUE**

Fig. 1 depicts the principle of passive haemagglutination technique.

![Diagram](image)

*Fig. 1. Tanned Turkey red cells coated with antibody to HA are agglutinated in the presence of Hepatitis Associated Antigen.*

**MATERIALS**

- Hepatost Kit (Wellcome Reagents)
- Terasaki plates and inclined plate stand (wooden)
- Micropipettor (Dynatech)
- Oxford dispenser
- Hamilton Repeating Dispenser (V.A. Howe)
- Calibrated Pasteur dropping pipettes (or similar) for 0.025 ml.
- Stock Buffer:
  - Solution A = 0.1M Na$_2$HPO$_4$ . 12H$_2$O
  - Solution B = 0.1M NaH$_2$PO$_4$ . 2 H$_2$O
- Horse serum (Wellcome Reagents)
- Pooled turkey serum
- Human group ‘‘AB’’ serum (HAA-free).

**METHOD**

Prepare modified buffer for use by mixing equal volumes of solution A and B fresh daily. To this stock buffer add 4% human group ‘‘AB’’ serum, 2% horse serum and 2% pooled turkey serum.

1:10 dilutions of test sera (0.025 ml in 0.225 ml buffer) are made in duplicate precipitin tubes. Using micropipettor, transfer 8 microliters of each serum dilution into a well of a Terasaki plate. Add 4 microliters of well-mixed Hepatost test cells using the Hamilton dispenser. Replace lids of Terasaki plates. The plates are left to stand inclined at 25° to 30° to the horizontal for 60 minutes.
Read macroscopically over diffuse light source. A negative reaction is seen as a "crescent" of settled cells. A positive reaction is seen as a poorly formed "crescent", with the agglutinated cells forming a carpet on the lower lip of the well. (Fig 2)

CONTROLS

With each sample batch titrate the positive Hepastest control serum provided with the kit. If this serum gives a titre of less than 1:32, the tests are considered invalid and must be repeated using fresh reagents.

CONFIRMATORY TEST

For each positive screened serum, doubling dilutions in working buffer from 1:4 to 1:64 are tested simultaneously using Hepastest Test cells and Control cells (tanned turkey cells coated with horse IgG). A confirmed Hepastest positive sample should have a titre greater than 1:4 with the Test cells and at least 2 doubling dilutions greater with the Test cells than with Control cells.

DISCUSSION

Results may be read after 30 minutes, but are easier interpreted after 60 minutes. The incidence of false positive by this technique is of the order of 0.1% only. Hence the rapidity of the test, its proven sensitivity (comparable to radioimmunoassay-RIA) and reliability as well as the inexpensiveness of the microtechnique make it an obvious choice for adoption to suit local needs, both for the diagnostic laboratory as well as the blood banks throughout the country.

Well in Terasaki plate

NEGATIVE RESULT
Complete crescent of sedimented cells.

POSITIVE RESULT
Partial crescent with a carpet of agglutinated cells.

Fig. 2. Interpretation of results of the modified microtechnique.
ABSTRACTS OF SOME RECENT IMR PUBLICATIONS

A COMMUNITY BASED STUDY ON THE EPIDEMIOLOGY OF HYPERTENSION IN SELANGOR.


Medical Journal of Malaysia 34: 211 — 220

A pilot study on the epidemiology of hypertension was carried out in 3 out of the 8 districts of Selangor, namely Klang, Sabak Bernam, and Ulu Langat. By stratified random sampling, 435 households were selected for this study but only 312 households (72%) were surveyed. 963 out of the 1,030 persons aged more than 15 years and living in the 312 households, were interviewed and examined. The mean age of those examined was 33 years. Taking systolic pressure of more than 140mmHg and/or diastolic pressure of more than 90mmHg as hypertension, 1 out of every 7 examined, i.e. 14% had hypertension. 5.4% had a systolic pressure of more than 160mmHg and 4.7% had diastolic pressure more than 95mmHg. The study showed a significant rise in the prevalence rate with age. There was no significant difference in the prevalence rates between the sexes, ethnic groups (Malays, Chinese and Indians), and the urban and rural populations. Hypertension was significantly more common among smokers (18.1%) than non-smokers (12.4%). It was also significantly more prevalent among those not engaged in physical activity (34.8%) compared to those engaged in physical activity (13.5%). There was no significant relationship between hypertension and tea, coffee and alcohol consumption. Though 90 out of the 135 hypertensives (67%) were aware of their illness, only 26 of them (36.1%) were under treatment.

This study indicated that the problem of hypertension exists both in the rural and urban areas of Selangor. There is a need to study the epidemiology of hypertension in the country, and to identify the role of the various categories of paramedical staff in the treatment and control of hypertension.

LEPTOSPIROSIS IN WEST MALAYSIA—EPIDEMIOLOGY AND LABORATORY DIAGNOSIS.

Tan, D.S.K. (1979)

Malaysian Journal of Pathology 2: 1 — 6

Serological surveys and clinical studies have shown that leptospirosis is endemic in West Malaysia. About 30 different serotypes of leptospires have been isolated and all the known serogroups have been represented in the agglutinins found in positive sera. Of afebrile persons throughout West Malaysia, 12.7% were positive for Sensitized Erythrocyte Lysis (SEL) antibodies. These were found in persons 4 to 60 years of age and above. Males (83.4%) had a much higher antibody rate than females (16.6%), and Indians led with a rate of 5.6% followed by Malays with 3.3% and Chinese with 2.8%. Oil palm workers, rubber estate workers and labourers in rural and forest areas were the most highly infected, and office workers, housewives and underground (lode) tin miners, least infected. Rural residents had a 16.4% antibody rate compared with 5.6% in urban residents. Results of surveys done in 5 rubber Estates and among the Kelantan and Perlis padi planters were discussed.

A 10-year (1969-1978) observation of clinical leptospirosis indicated confirmation of 19.6% of suspected cases, with cases among males (93.3%) being markedly more predominant than among females (6.7%). Cases were more common among Indians and Malays than Chinese, and the age group 20 to 40 years was the most frequently affected. The distributions of the presumptive infection serogroups observed in
1958-1968 were different from those observed in 1978. An account of the different laboratory methods is given.

CANCER INCIDENCE IN MALAYSIA.

Armstrong, R.W. and Ahluwalia, H.S. (1979)

*National Cancer Institute Monograph 53: 53 — 57.*

The frequency of cancers by body site, sex, and ethnic group was determined from biopsy records of the Division of Pathology of the Institute for Medical Research, Kuala Lumpur for the years 1969-71. The three most frequent cancers among Malay males were: skin (19.3%), lymph nodes (15.4%), and nasopharynx (11.1%); among Chinese males: nasopharynx (20.0%), lymph nodes (17.1%), and lung (10.6%); and among Indian males: lymph nodes (16.2%), skin (14.2%), and penis (8.7%); The three most frequent cancers among Malay females were: cervix uteri (21.1%), breast (14.6%), and skin (9.7%); among Chinese females: cervix uteri (23.8%), breast (13.9%), and nasopharynx (9.3%); and among Indian females: cervix uteri (40.4%), breast (12.2%), and skin (5.2%). Comparisons made with data from the Singapore Cancer Registry suggested that among Malaysian males, cancers of the stomach, liver and lung may be more prevalent than the biopsy series indicates and that among Malaysian females, cancers of the breast and cervix should have reverse rankings. Relative risk values for 21 body sites indicated significant differences among ethnic groups for cancers of the nasopharynx, larynx, lung, bone, skin, cervix, ovary, prostate, and penis, and for lymphomas.

A SURVEY OF AMPHISTOMES OF CATTLE AND BUFFALOES SLAUGHTERED AT THE SHAH ALAM ABATTOIR, SELANGOR, MALAYSIA.

Ambu, S. (1978)


The objective of the survey was to establish the intensity of Amphistome infection in the stomachs of cattle and buffaloes slaughtered at the Majuternak abattoir in Shah Alam. The survey was carried out monthly for a period of 5 months on cattle and buffaloes from the state of Kelantan. The findings indicate that the infection was much higher in buffaloes than in cattle. The variation of species infecting the animals was greater in cattle than in buffaloes.

The highest recorded number of amphistomes in a single buffalo was 117,555 and in a single cattle was 44,809. A controlled study has to be carried out to determine the effect of the parasites on the live weight gain and milk yield of the infected animals.

THE EFFECT OF MALNUTRITION ON IMMUNITY.


The most serious nutritional problem in Malaysia is protein calorie malnutrition (PCM) which is basically the result of a deficiency in both calories and protein, aggravated by infective and parasitic diseases. The most vulnerable age group is between one and four years old. A study was carried out on cases of severe PCM admitted to the paediatric unit of the General Hospital, Kuala Lumpur. A defect in cell-mediated immunity (CMI) response in PCM was confirmed by in vitro lymphocyte transformation studies using
T- and B-cell mitogens. Rosette forming T-cells with sheep red blood cells were lower in percentage, but B-cell percentage remained within the normal range. This seems to confirm reports elsewhere that thymus-derived T-cells were more impaired than antibody-forming B-cells. Hypergammaglobulinemia, decreased C₃ and increased C₄ levels were discussed in the light of malnutrition aggravated by infections. Lowered IgA and C₃ levels together with a low T-cell percentage suggest a possible impairment of the secretory immune system and the T-cell function, hence increasing the period and frequency of infection. Thus recurrent parasitic infection and deficient food intake act in synergism. Infections cause loss of nitrogen, water soluble vitamins and even vitamin A in the urine. Nitrogen is also diverted to the making of immunoglobulins.

**FATTY ACIDS AND POLYUNSATURATES IN SOME COMMON MALAYSIAN COOKING OILS.**

Ng, T.K.W. and Chong, Y.H. (1979)

*Medical Journal of Malaysia 33: 331 — 333.*

The fatty acid composition of 14 types of commercially manufactured cooking oils was analysed by gas-liquid chromatography. Vegetable oils such as soyabean, corn and sunflower have the highest content of polyunsaturated fatty acids (PUFA), predominantly as linoleic acid. On the other hand, coconut, lard and palm oils have a comparatively high degree of saturation but their use should not be discouraged as they satisfy energy requirements particularly in disadvantaged communities. The PUFA content was low and the palmitic acid content high in most of the blended oils analysed since the comparatively cheap palm oil was a common component in these oils. All varieties of blended oils examined did not declare the proportion of their component oils on their labels and their fatty acid composition might vary significantly from batch to batch.

**ECOLOGY OF LAND SNAKES AND EPIDEMIOLOGY OF SNAKE BITES IN MALAYSIA.**


*The Snake 12: 37 — 44.*

Snake bites are fairly common in the northern parts of Peninsular Malaysia, and it has been estimated that 75% of the cases are from the states of Perlis, Kedah and Penang. For the period 1960 — 1975, a total of 35,828 cases of snake bites were reported. Victims of snake bites are mainly rural people, such as farmers, plantation workers, woodcutters and fishermen. The majority of the victims are males in the 20 to 50 years age group. Though mortality is low, the number of snake-bite cases is fairly high and on the increase every year.

Although snake bites are a serious problem, deaths resulting from bites are surprisingly few. Perlis and Kedah have the highest incidence of snake bites and have more deaths than any other state. However, the present study as well as studies conducted earlier by Reid (1963) and Lim (1970) show that the mortality rate is less than 1%. The death rate in other states is even lower than this. The very low mortality rates in Peninsular Malaysia may be due to proper management of snake bite victims and the availability of antivenin for most snake bites.

About 80% of the bites were inflicted on the lower extremities of the body, thereby indicating that most of the snakes involved were terrestrial forms. People should, therefore, wear protective clothing like boots and stockings while working in the estates and walking in forests and jungle paths.
CHANGING VIEWS ON ORAL PRECANCERS.


Southeast Asia has the highest frequency of oral carcinoma in the world because of the popularity of such oral habits as the chewing of betel-quid, smoking and the drinking of alcohol. Oral carcinoma in the vast majority of patients is preventable. The pathologist by applying the WHO Premalignancy Index scores can be of great guidance and value to the surgeon and patient. Erythroplakia is indeed the predominant and earliest visible sign of oral carcinoma. About 1.4 to 6.0% of oral leukoplakias become oral carcinoma. Speckled leukoplakias have a greater frequency of developing into carcinoma than homogeneous leukoplakias. Regression of leukoplakias may be spontaneous or may follow treatment. Leukoplakias should be considered as a dynamic changing lesion of the oral mucosa. Submucous fibrosis is an important precancerous condition in Indians. The cause of submucous fibrosis is unknown. There is also no known treatment. There is speculation that submucous fibrosis is the Asian version of sideropenic dysphagia seen in Caucasians. More studies are needed to ascertain the relationship, if any, between oral lichen planus and oral carcinoma. Although recent studies have brought some clarity to our understanding of oral precancerous conditions, much more remains to be investigated.

DRUG TRIALS WITH LEVAMISOLE HYDROCHLORIDE AND DIETHYLCARBAMAZINE CITRATE IN BANCROFTIAN AND MALAYAN FILARIASIS.

Mak, J.W. and Zaman, V. (1980)

*Transactions of the Royal Society of Tropical Medicine and Hygiene* 74: 285 — 290.

Seventy-eight microfilaraemic patients with *Wuchereria bancrofti* and *Brugia malayi* infections were treated with various oral levamisole hydrochloride total dosage regimes of 150 to 3,150 mg and total diethylcarbamazine citrate (DEC) of 36 and 126 mg per kg body-weight. Significant microfilaricidal and probable macrofilaricidal effects were seen at total levamisole hydrochloride dosage of 300 to 3,150 mg and the DEC dosages. The optimum dosage regime with levamisole hydrochloride recommended for treatment of microfilaraemic patients is 100mg initially followed by 100mg twice daily for 10 days. This dosage regime was as effective as a total oral dosage of DEC at 126mg per kg body-weight. Side reactions were dose dependent, mild and transient, with fever being the most common. One patient developed fits after 150 mg levamisole hydrochloride. The pathophysiology of these side reactions is discussed and it is recommended that levamisole hydrochloride, as a probable alternative for the treatment of patent and occult filariasis, should be used only under close medical supervision.

THE MALAYSIAN NATIONAL MEDICAL BIBLIOGRAPHY

The National Council for Scientific Research and Development (NCRD) was formed by the Malaysian Government in 1976, and under its wing a number of Committees covering various fields were subsequently formed. One of these was the Medical Science Committee which at its first meeting on 1st August 1979 decided to form several sub-committees. At the moment there are four sub-committees, one each for Medical Research, Nutrition, Industrial Medicine and Primary Health Care. The object of the Medical Research Sub-Committee is to co-ordinate all research activities in the field of medicine.
This Sub-Committee held its first meeting on 26th September 1979. It realized that there was no bibliographical control in the field of medicine in Malaysia, and decided to collect and collate lists of publications, both past and current, about Malaysian topics or by researchers in Malaysia. This proved to be an enormous task, and thus the help of the local medical librarians was enlisted.

A bibliography is a systematic record of all forms of material published and unpublished, and whether printed, audiovisual or otherwise which add to the sum of human knowledge and information. It is the librarian's task to collect records and to organize them effectively for use. Individual librarians have been performing this task but so far there has been no co-ordinated effort. Moreover, many institutions do not employ qualified librarians.

There are various indexing and abstracting services in the field of medicine and it is generally assumed that the Index Medicus produced by the National Library of Medicine (NLM), USA achieves effective bibliographical control in the field of biomedicine. The Index Medicus indexes over 2,500 journals, but however in this age of information explosion this number falls very short of the total number of journals published in the field of biomedicine. Many of the journals produced in developing countries do not find their way into the Index Medicus as the NLM has its own policy of evaluating and selecting journals for inclusion. In addition, a lot of the ephemeral literature produced, such as unpublished reports, is often lost because of the lack of bibliographical control.

The local medical librarians decided that, as the BIBLIOMED-SM and its supplement cover the period up to 1978, their work should be confined to publications subsequent to this period. Under the guidance of the Chairman of the Medical Research Sub-Committee, the librarians drew up a questionnaire for distribution to all researchers. It required the following information:

1. Performing Organization
2. Project Title
3. Investigators and Designations
4. Project Period
   (a) Date of Commencement
   (b) Date of Completion
5. Funding Organization
6. Project Summary/Abstract of Publication
7. Citation of Article

One of the aims of the Medical Research Sub-Committee is not only to collect and publish annually a medical bibliography of local publications but also to maintain a register of research projects in the field of medical research in Malaysia.
NATIONAL WORKSHOP ON THE CARE AND MANAGEMENT OF LABORATORY ANIMALS

The Minister of Health officially opened the First National Workshop on the Care and Management of Laboratory Animals on 13th October. This workshop, which lasted till 24th October, turned out to be most interesting to the participants as many of them had only limited exposure to the field. There were 19 local participants from the local Universities, the Veterinary Research Institute in Ipoh, the IMR, and 2 from neighbouring Thailand and Singapore.

All aspects of laboratory animal science were covered including Pathology, Nutrition and Inbreeding of Laboratory Animals. The following points received emphasis.

(a) Some institutions in Malaysia, e.g. the IMR have been using laboratory animals in biomedical research for as long as 40 years. Of the many diseases that are documented in the laboratory animal literature only one contaminant — i.e. Reovirus III — has been seen in our mouse colonies. No other viral pathogens that are prevalent in laboratory animal colonies in other parts of the world have been isolated in Malaysia. It was recommended that the stock of laboratory animals be re-examined at least biannually for virus diseases.

(b) The quality of laboratory animal feed, especially those prepared commercially is low and does not meet the needs of laboratory animals. Recommendations were made so that this matter could be rectified.

(c) Inbreeding, gnotobiotics and barrier maintained animals generated the most interest. The Workshop found it imperative for research institutions in Malaysia to look seriously into the development and use of inbred strains of animals in order to update local research standards.

In addition to the local consultants, there was a consultant from the World Health Organization, Dr. M. Sabourdy, who contributed a great deal to the Workshop.

Needless to say, this Workshop was a success. The ideas exchanged, the problems crystallised, and the recommendations made will hopefully serve as key points for further progress.