

## The Malaysian Society of Pathologists: 6th Annual general Meeting and Scientific Meeting

The 6th annual general meeting and scientific meeting was held at the Institute for Medical Research, Kuala Lumpur 15-16 August 1981.

Abstracts of the scientific communications follow.

Verner-Momson syndrome — intractable diarrhoea and hypokalemia in an 81 year old man

R. PATHMANATHAN (*Department of Pathology, Faculty of Medicine, University of Malaya, Kuala Lumpur*) Diarrheogenic islet cell tumours of the pancreas are rare. A case of an 81 year old man who presented with intractable diarrhoea and hypokalemia of 1½ year duration is presented. At autopsy, an islet cell adenoma of the pancreas was found. Histology and ultramicroscopic examination supports a diagnosis of Verner-Morrison syndrome.

Tumour associated amyloid in basal cell carcinoma

LM LOOI AND MY LIM (*Department of Pathology, Faculty of Medicine, University of Malaya, Kuala Lumpur*) In the 10 year period between 1st January 1971 and 31st December 1980, 53 new cases of histologically proven basal cell carcinoma of the skin were seen at the University Hospital, Kuala Lumpur. Biopsy specimens of these tumours were screened with the Congo red stain for the presence of tumour associated amyloid. As much as 65% contained eosinophilic stromal deposits exhibiting the histochemical and electron microscopical features of amyloid. These were found in close association with the tumour. The significance of this finding, including the possibility that it may reflect a form of host response to the tumour, will be discussed.

Mesenchymal chondrosarcoma — a case report

SM CHONG (*Department of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur*) A 21 year old Chinese female was found to have a thoracic tumour on routine chest X-ray. At operation, the tumour was found arising from the left sixth rib and adhering to the underlying pleura. The rib was excised. Histological sections showed a lesion composed of foci of cartilage alternating with sheets of malignant spindle cells. In areas, a marked haemangiopericytomatous pattern was present. These unique features are diagnostic of a mesenchymal chondrosarcoma. The literature is briefly reviewed.

Evaluation of management of acute myeloid leukaemia in the General Hospital, Kuala Lumpur

G DURAISAMY, V MAHADEV AND CG LOPEZ (*National Blood Services Centre, General Hospital, Kuala Lumpur and Institute of Radiotherapy, Oncology and Nuclear Medicine, General Hospital, Kuala Lumpur*) This is a review of the results of treatment of acute myeloid leukaemia in this hospital over the past 5 years, from Oc-

tober 1975 to 1980. In all, 35 patients treated with three different induction regimes are analysed. Regimes used were the Barts III regime, DAT and SWOG regimes.

Haemorrhage in acute promyelocytic leukaemia, infection, anthracycline toxicity, hypokalemia are some total complications seen during treatment. The importance of anthracycline drugs during maintenance therapy is stressed and the choice of induction regimes using minimal amounts of this drug to allow its prolonged use in maintenance phase is emphasised.

26 out of 37 patients (70%) who went into remission survived over one year. One patient is alive and well for 5 years which illustrates what can be achieved in leukaemia management. Various methods of preventing relapse during the maintenance phase such as late intensification, immunotherapy and the place of bone marrow transplantation in producing cure is examined.

We consider that we are moving towards a more successful and practical induction and maintenance regime for acute myeloid leukaemia, using an individualised approach. Our biggest problem is still leukaemic relapse during remission maintenance therapy. The patients' prognostic factors such as age, race, organomegaly, percentage of blast cells and morphological type in relation to the results achieved in terms of remission reduction and long term survival are presented.

HbE-beta thalassaemia and beta thalassaemia major—A comparative study

YASMIN AYOB, G DURAISAMY AND CG LOPEZ (*National Blood Transfusion Services, General Hospital, Kuala Lumpur*) 34 cases of beta-thalassaemia major and 75 cases of HbE-beta thalassaemia were diagnosed in the National Blood Transfusion Service, General Hospital, Kuala Lumpur between 1976 and 1980. It is found that HbE-beta thalassaemia is a less severe disorder than beta thalassaemia major, even though the physical appearances of the two conditions are similar. HbE-beta thalassaemia is mainly found among the Malays whereas beta-thalassaemia major is found in both Chinese and Malays. In HbE-beta thalassaemia the age of presentation was found to vary from the age of 4 months to 46 years. The age of presentation in beta-thalassaemia major is between 2 months and 14 years. Of the 75 cases of HbE-beta thalassaemia, 9 cases were diagnosed during pregnancy illustrating the fact that in HbE-beta thalassaemia the endocrine abnormality is less severe. These cases also do not require frequent blood transfusion and survive with their "normal" haemoglobin of 6-8g/dl. Analysis of the cases and findings will be discussed in the paper.

Prolymphocytic leukaemia

**KHALID HASSAN, J BOSCO AND V PURUSOTHAMAN** (*Haematology Division, Institute for Medical Research, Kuala Lumpur and Department of Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur*) We present a case of this rare type of leukaemia. Here we describe the clinical features, morphology including electron microscopic picture and cytochemical features of the first case of this condition that has been diagnosed in the Institute for Medical Research. Diagnostic and clinical implications are discussed.

Stress polycythaemia: description of a case and review of the literature

**KHALID HASSAN AND V PURUSHOTHAMAN** (*Haematology Division, Institute for Medical Research, Kuala Lumpur*) Stress polycythaemia is a rare entity. Its incidence has not been established in this country, but we have seen several cases in the IMR; all have been wrongly diagnosed as polycythaemia vera. We present the clinical, haematological and other laboratory features of a typical case and discuss the clinical and diagnostic problem involved, in comparison to experience elsewhere.

The determination of plasma ferritin and iron in the investigation of anaemias during pregnancy

**R SWARUPINI, N CHANDRASEKHARAN, SITI ZALEHA AND TA SINNATHURAY** (*Clinical Diagnostic Laboratory and Department of Obstetrics and Gynaecology, University Hospital, Kuala Lumpur*) Iron deficiency is a common cause of anaemia and its incidence is known to be high in women of child-bearing age. This study deals with the estimations of plasma ferritin and iron and their interrelationships with other factors during pregnancy.

Heparinised blood samples were collected from 250 pregnant women with haemoglobin levels below 10g/100 ml, 34 pregnant women with haemoglobin levels above 10g/100 ml and 20 non-pregnant women with haemoglobin levels above 12g/100ml. The haemoglobin concentration, PCV, and MCHC were determined on all blood samples. Plasma iron was estimated by a colorimetric procedure, plasma ferritin by radioimmunoassay and plasma folic acid by a microbiological procedure. Dietary data on 50 of the anaemic pregnant women was obtained using a questionnaire.

The anaemic pregnant women had the lowest levels of ferritin, iron and folic acid whereas the non-anaemic non-pregnant women had the highest levels. Of the anaemic pregnant women 68% had iron levels below 80ug/100ml and of these 14% had levels between 20 to 40ug/100ml. Forty-eight percent of the anaemic pregnant women had ferritin levels below 9ng/ml and twelve percent had ferritin levels between 11-15 ng/ml, whereas 80% of them had folic acid levels below 6 ng/ml. A significant correlation was found between haemoglobin and plasma ferritin and iron levels. The dietary data revealed that the majority of the anaemic pregnant women were consuming diets poor in the essential nutrients.

The advantages of ferritin assays over iron determinations are considered and the significance of the various

findings are discussed. (This study was supported by grant F.88/77 from the University of Malaya)

An evaluation of serum digoxin assays and their interrelationships with some clinical and biochemical parameters in digitalised patients.

**SL CH'NG, N CHANDRASEKHARAN, SF YAP, KT SINGHAM AND ANUAR MASDUKI** (*Clinical Diagnostic Laboratory and Department of Medicine, University Hospital, Kuala Lumpur*) Monitoring of drug therapy by blood measurement has assumed increased importance in recent years. The clinical usefulness of the measurement of serum digoxin and the alterations in serum electrolytes and creatinine level were investigated in a group of sixty-seven digitalised patients in this study. Serum digoxin levels were estimated by radioimmunoassay and the electrolytes and creatinine by SMA-11.

Twenty-four patients had clinical features of digoxin toxicity, eleven had electrocardiographic changes and thirteen patients had gastrointestinal disturbances. The mean serum digoxin level ( $\bar{x} = 2.42 \pm 1.32$  ng/ml) in the digitoxic group was significantly higher ( $P < 0.005$ ) than the nondigitoxic group ( $\bar{x} = 1.46 \pm 0.85$  ng/ml) receiving the same daily dosage of 0.25 mg of digoxin. No such difference was noted in the group receiving 0.125 mg digoxin daily. None of the nondigitoxic patients in this study had serum digoxin levels greater than 3 ng/ml. However, below this level there was much overlap between the digitoxic and nondigitoxic groups.

There was a positive correlation between serum magnesium ( $r = 0.251$ ,  $n = 71$ ,  $p < 0.025$ ), serum potassium ( $r = 0.271$ ,  $n = 81$ ,  $p = 0.01$ ), serum calcium ( $r = -0.238$ ,  $n = 71$ ,  $p = 0.025$ ) and serum digoxin levels. No significant correlation between serum creatinine and digoxin levels ( $r = 0.129$ ,  $n = 79$ ,  $p < 0.15$ ) was observed. The significance of these findings and the clinical value of serum digoxin assay are discussed.

Some epidemiological and chemical considerations of urinary calculi disease

**R PATHMANATHAN, N CHANDRASEKHARAN, TUNKU MARINAH, V KUMAR AND SL CH'NG** (*Departments of Pathology and Surgery, Faculty of Medicine, University of Malaya, Kuala Lumpur*) Urolithiasis is an important medical problem in South East Asia and there is a paucity of published data on the problem in Malaysia. This communication deals with the occurrence of urinary calculi amongst those attending the University Hospital over a period of ten years (1970-1979). A total of 438 stones removed surgically were analysed for various chemical constituents using standard procedures and data pertaining to age, sex and ethnicity were recorded.

The incidence of stone over the period of study averaged 220/100,000 admissions and formed 1.8% of all surgical cases operated on. The occurrence of stones was highest amongst the Chinese and this was significant for both sexes ( $p < 0.05$ ). There were more stones of the upper urinary tract than those of the lower urinary tract (3:1). The incidence of stones was highest in the age group 20-50 years. Bladder stones formed 19% of all stones and the majority of these occurred in those above 20 years.

Calcium, oxalate and phosphate were found in most stones whereas cystine stones were uncommon (<20%). The majority of bladder stones had uric acid.

The various factors contributing to stone formation, the differences in occurrences and the importance of preventive measures are discussed in the context of available data and current knowledge.

Coagulation, fibrinolysis and platelet function in sickle-cell anaemia

BAHARUM YUSOF AND KHALID HASSAN (*Specialists and Reproductive Research Centre, National Family Planning Board, Kuala Lumpur and Division of Haematology, Institute for Medical Research, Kuala Lumpur*) Coagulation, fibrinolysis and platelet function studies are performed in 25 heterozygous and 5 homozygous sickle-cell anaemia cases. The coagulation system is found to be normal but fibrinolysis and platelet function shows abnormalities which are discussed.

Maternal and cord Vit. B<sub>12</sub> and folate levels in the Malaysian female population at parturition

JAFFAR ALI, HAMID ARSHAT AND KHALID HASSAN (*Specialists and Reproductive Research Centre, National Family Planning Board, Kuala Lumpur and Division of Haematology, Institute for Medical Research, Kuala Lumpur*) The aim of the present study is to determine the extent to which deficiency of various haematinics occur during pregnancy in the Malaysian population and the implications thereof. Normal, healthy women and men served as controls while women brought to the Maternity Hospital, Kuala Lumpur for delivery were studied for folate, Vit. B<sub>12</sub> and iron levels at parturition. Their babies' cord blood was also analysed for the same parameters. About 58% of the women suffered from lowered serum folate levels (< 5.0 ng/ml), 32.4% had lowered RBC folate levels (< 160.0 ng/ml) and 20% had serum iron levels below 60 ug/100 ml. There were variations in the deficiency levels among the various ethnic groups with respect to individual parameters. Vit. B<sub>12</sub> level does not seem to be affected. Cord blood samples had significantly elevated levels of all the above parameters suggesting the possible involvement of active transport in the transfer of these substances to the fetus. It is recommended that pregnant women be supplemented with haematinics throughout pregnancy.

*Mycobacterium ulcerans* infection in Malaysia

JHS PETTIT (*Consultant Dermatologist, Bangunan China Insurance, Kuala Lumpur*) The discovery of the focus of *Mycobacterium ulcerans* infection in Malaysian aborigines was first reported in 1962. This paper will demonstrate the classical, clinical appearances, differential diagnosis, the bacterial investigations and the presently accepted methods of treatment.

Significance of chromosomal analysis - case reports

SK TEN, YM CHIN, SK TAN AND KHALID HASSAN (*Haematology Division, Institute for Medical Research, Kuala Lumpur*) It has been reported that 7 per 1000

newborns are affected with some form of chromosomal abnormality, either numerical or structural in nature, or both. Sex chromosome abnormalities (4/1000) are found to have a slightly higher incidence than autosomal chromosomal abnormalities (3/1000). Chromosomal analysis serves as a useful tool in diagnosing patients with congenital malformation, mental retardation, ambiguous genitalia (intersexuality), infertility, multiple miscarriages, stillbirths, acknowledged familial chromosomal abnormalities, and in certain haematologic disorders such as chronic granulocytic leukaemia. Prenatal diagnosis should be recommended for such patients: when the maternal age is 35 and above, when either parent is a 'balanced translocation carrier', and when a previous child had any kind of chromosomal aberration. The collection and processing of specimens for chromosomal analysis will be discussed.

Case reports of some patients referred to our Genetics Clinic because of congenital malformation, mental retardation, ambiguous sex, primary or secondary amenorrhoea, and infertility will be presented.

Human volunteer studies: planning and conducting a chemoprophylactic drug trial

SC JR OAKS (*USAMRU, Institute for Medical Research, Kuala Lumpur*) Drug testing involving human volunteers requires considerable planning before the actual execution stage. A detailed protocol must be prepared and sent through an extensive review process before the final approval is given and the trial can begin. The review process focuses on a single major factor: the potential risk to the volunteers. A recent chemoprophylactic drug trial will be discussed with emphasis on the planning stages.

Pattern of male urethral discharge in a Kuala Lumpur STD clinic

VKE LIM AND RIDZWAN BAKAR (*Departments of Microbiology and Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur*) 138 males presenting with a total of 146 episodes of urethral discharge were seen at the sexually transmitted disease (STD) clinic of the Faculty of Medicine, Universiti Kebangsaan Malaysia between 1.8.1980 to 31.1.1981. Nearly 80% of these episodes of urethral discharge were diagnosed as gonococcal urethritis and the other 20% as non-gonococcal urethritis. 36% of the isolates of *Neisseria gonorrhoeae* were found to be betalactamase products. About 30% of the gonococcal cases were complicated by post-gonococcal urethritis. The direct smear to look for Gram-negative diplococci which occurred intracellularly was found to be a very satisfactory method of diagnosing male gonococcal urethritis.

Immunological studies of *Plasmodium berghei* infection in mice

SS DHALI WAL AND MS YADAV (*Department of Genetics and Cell Biology, University of Malaya, Kuala Lumpur*) Various immunisation schedules were used to try and protect mice against a viable *Plasmodium berghei* challenge. The immunity obtained could be transferred by cells but not by serum.

The effect of antifilarial drugs on *Brugia malayi* infective stage larvae

**BKL SIM** (*Filariosis Division, Institute for Medical Research, Kuala Lumpur*) Microfilaraemic patients were treated with either Diethylcarbamazine citrate, Mebendazole, Levamisole hydrochloride or a combination of Mebendazole and Levamisole hydrochloride. Serum samples were obtained at intervals during the period of treatment. The effect of these sera on the infective larvae of *Brugia malayi*, *in vitro*, in the presence of normal human buffy coat cells will be discussed.

Preliminary studies on the *in vitro* maintenance and culture of subperiodic *Brugia malayi* and *Brugia pahangi* infective larvae

**PKC LIM** (*Filariosis Division, Institute for Medical Research, Kuala Lumpur*) Infective larvae of subperiodic

*Brugia malayi* and *Brugia pahangi* were cultivated in various culture media. The best results were obtained in RPMI 1640 + 10% foetal calf serum which maintained subperiodic *B. malayi* and *B. pahangi* infective larvae for 25 days and 18 days respectively. A few of the subperiodic *B. malayi* larvae exsheathed partially after the 8th day in culture. Larval measurements at maximum days of survival indicated some growth of the infective larvae for both species.