

The 14th Annual General and Scientific Meeting was held at the Faculty of Medicine, University of Malaya, Kuala Lumpur on 10–12 November 1989. Abstracts of the scientific communications follow:

ORAL PRESENTATIONS:

1. GLIAL FIBRILLARY ACIDIC PROTEIN (GFAP), S100 PROTEIN AND ALPHA-FETOPROTEIN (AFP) EXPRESSION IN IMMATURE TERATOMA

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The expression of GFAP, S100 and AFP antigens in formalin-fixed paraffin-embedded material from 19 immature teratomas were studied immunocytochemically using the peroxidase-antiperoxidase method. The antigens GFAP, S100 and AFP were specifically chosen to study tissues from the three germ cell layers (ectoderm, mesoderm and endoderm). The structures selected for study were neuroectoderm/glia tissue (ectoderm), mature/immature cartilage (mesoderm) and mature/immature glandular elements (endoderm).

It was found that neuroectodermal elements were consistently negative for GFAP whereas 88% of the mature glial elements were positive. 100% of the immature cartilage and 71% of the mature cartilage stained positively for S100 protein. S100 staining in mature chondrocytes was distinctly weaker than for immature chondroid cells. 24% of mature glandular structures stained positive for AFP compared to a positivity rate of 36% expressed by immature glands and 31% by undifferentiated mesenchymal cells.

This study illustrates the interesting phenomena of "switching-on-and-off" of specific protein production by immature tissues and their mature counterparts. From a more practical point of view these antigens could be used as an aid to differentiate mature and immature elements (in teratomas) when routine haematoxylin and eosin (H & E) stains appear inconclusive.

2. AN IMMUNOHISTOCHEMICAL STUDY OF GASTROINTESTINAL LYMPHOMA

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Between the years 1979–1988, 18 cases of gastrointestinal lymphomas were retrieved

from the file of the Department of Pathology, University Hospital, Kuala Lumpur. These archival material were previously fixed in 10% buffered formalin and embedded in paraffin wax. 5 µm thick sections were cut for immunophenotyping, using the avidin-biotin peroxidase complex method. A short panel of paraffin reactive antibodies were used for the immunophenotyping of these lymphomas.

The ages of these patients ranged from 5 to 72 years. 3 of these cases were below 12 years of age and of the remaining 15 cases, 10 were 50 years and above. The paediatric gut lymphomas were all situated in the small intestine. In the adult group, the stomach is by far the commonest site for the lymphomas. There is equal sex ratio in this series of patients.

Immunophenotyping of these lymphomas showed that there is a majority of B cell lymphomas which is not unlike the result of most other studies.

3. NON-HODCKIN'S LYMPHOMA IN HOSPITAL USM, KELANTAN – A RETROSPECTIVE CLINICOPATHOLOGICAL STUDY

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We analysed the clinical and pathological features of 30 patients with Non-Hodgkin's Lymphoma (NHL) diagnosed between April 1984 and December 1988 at the Hospital Universiti USM in Kelantan. There were 16 males and 14 females ranging in age from 4–76 years (mean age 38.5 years).

Of the 30 patients, 19 presented with nodal and 11 with extranodal NHL. The sites of extranodal NHL were gastro-intestinal tract (6 cases), Waldeyer's ring (2 cases), ocular (2 cases) and skin (1 case).

According to the Working Formulation, 24 patients were histologically classified as intermediate and high grade NHL. The pattern was diffuse in 23 patients. 16 patients had advanced disease and 19 patients had B symptoms at presentation.

In conclusion our study of NHL demonstrates:

- i) a high incidence of extranodal forms (36.7%).
- ii) that most patients have poor prognostic factors i.e. B symptom (63.3%), intermediate and high grade histology (80%) and advanced disease (53.3%).

4. PARAFFIN SECTION IMMUNOPHENOTYPING OF MALIGNANT LYMPHOMAS

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A prospective study of 53 cases of malignant lymphomas diagnosed in UKM since January 1989 were typed by immunohistochemistry on paraffin sections. The alkaline phosphatase anti-alkaline phosphatase (APAAP) and Avidin-Biotin Complex APAAP methods were used. Sensitivity was not tested but the latter appears to give sharper staining characteristics. A relatively small panel of monoclonal antibodies were used : UCHL 1, MTI for T-cell; L26, MBI, LN1 for B-cells, alpha-1 antitrypsin and lysozyme for histiocytes, Leu M1 and recently Ki-1 for large cell lymphomas and Reed-Sternberg cells.

Factors affecting results, such as fixative, trypsination, optimal sections, primary antibodies and chromogens will be discussed. Results show positive B markers for 34 cases, T-cell marker in 10, histiocytic markers in one, Ki-1 in one large cell lymphoma and in one Hodgkin's disease. The non-staining cases were all Hodgkin's disease. Optimal staining requires individual laboratory determination for suitable procedures and use of reagents and antibodies. Light microscopy is still of paramount diagnostic importance, especially for Hodgkin's disease.

5. MALIGNANT RHABDOID TUMOUR OF THE KIDNEY - A CASE REPORT

FAUZIAH KASSIM, N.W.K. Azizah

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A six year old girl presented with painless haematuria. Subsequent examination and investigation revealed a right sided renal tumour. Histology of the tumour strongly suggests a diagnosis of a malignant rhabdoid tumour (MRTK). The histogenesis of the tumour is discussed.

6. RETINOBLASTOMA IN A UNIVERSITY UNIT - A RETROSPECTIVE STUDY TO DETERMINE THE PROGNOSTIC VALUE OF ITS HISTOPATHOLOGIC FEATURES.

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From 1978 to 1988, 38 eyeballs, diagnosed as retinoblastoma, were received by the department of pathology, UKM. These eyeballs were obtained from 37 patients. Only 14 cases were available for this study. Results show that choroidal, scleral and optic nerve infiltration were features that can predict prognosis.

Although the study involved only 14 cases, the results were comparable with studies from other centres.

7. MORPHOMETRY IN BENIGN AND MALIGNANT BREAST TUMOURS

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Morphometry is a quantitative microscopic technique used in histopathology to obtain more objective and reproducible results. A study was set up to determine the potential of this technique in differentiating neoplastic from normal mammary ductular cells. The nuclear areas and sizes of 600 cells from 20 cases each of invasive ductal carcinoma and fibroadenoma were compared with those of normal controls. Digitisation was performed on paraffin-embedded and H+E stained tissue sections using a semi-automatic cell image analysis system. Results showed that the mean nuclear area of invasive ductal carcinoma cells of 35.5 sq um was significantly larger ($p < 0.01$) than that of fibroadenoma epithelial cells (18.6 sq um) and normal mammary ductular cells (19.9 sq um). However the mean nuclear area of fibroadenoma epithelial and normal ductular cells showed no significant difference. The mean nuclear size of invasive ductal carcinoma cells of 6.5 um was significantly larger ($p < 0.01$) than that of fibroadenoma epithelial cells (4.8 um) and normal mammary ductular cells (4.9 um). There is no significant difference between the mean nuclear size of fibroadenoma

epithelial and normal ductular cells.

In conclusion, we find that both nuclear area and size can differentiate cells of invasive ductal carcinoma from those of fibroadenoma and normal mammary ductules but is unable to distinguish between the latter two entities. Morphometry is, therefore, a valuable adjunct in the diagnosis and quantitation of certain breast tumours.

8. THE "EASY BRUISING" SYNDROME - A STUDY OF 31 CASES FROM UNIVERSITY HOSPITAL, KUALA LUMPUR.

NG SOO CHIN, & P.L. KOONG

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Over a 3 year period (1987-89), 31 patients were investigated for the chief complaint of easy bruising in the coagulation laboratory of the Haematology Division of University Hospital. Patients who satisfied the following criteria were included in this study: normal platelet count, absence of past history of immune thrombocytopenic purpura or systemic disorders known to result in bruising or purpura and a negative drug history. The evaluation of these patients included clinical review (history and physical examination) plus coagulation tests consisting of bleeding time, partial thromboplastin time, thrombin time, fibrinogen level, platelet count and platelet function tests.

7 of the 13 paediatric patients were diagnosed to have acquired platelet dysfunction with eosinophilia (APDE). One patient had storage pool disease. 5 patients had normal results. Only 1 of the 18 adult patients had demonstrable abnormality suggestive of a hemophilic A carrier state. The remaining 17 patients had no haemostatic defect detected. Hence APDE was the commonest cause of easy bruising in children but in adults the haemostatic defect contributing to easy bruising remained unknown.

9. HEPATITIS B MARKERS IN HAEMOPHILIACS SEEN AT BLOOD SERVICES CENTRE, GENERAL HOSPITAL, KUALA LUMPUR (1982-1989)

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Haemophiliacs are exposed to a higher risk of being infected by blood borne diseases

as they receive multiple transfusions. A study was carried out to monitor the incidence of HBV infections in haemophiliacs and to evaluate the safety of the blood products used in the Blood Transfusion Service.

From 1982-1989, 215 haemophiliacs were transfused with blood products at the General Hospital, Kuala Lumpur. All the blood products were from Blood Transfusion Service, General Hospital, Kuala Lumpur. All recipients screened for HBsAg before and after transfusion of blood products. HBs negative blood specimens were further assayed for Anti-HBs, Anti-HBc. Those who were HBsAg positive were tested for HBeAg and Anti-HBe. In all cases Abbots, RIA kits (Ausria, Ausab, Corab) were used.

It was found that out of the 215 haemophiliacs tested 9 (4.2%) were HBsAg positive. The 206 HBsAg negative were tested for Anti-HBs and 108 (52%) were found to be positive. 94 (46%) were positive for both Anti-HBs and Anti-HBc. 90 (42%) were negative for HBsAg, Anti-HBs and Anti-HBc and were offered Hepatitis B vaccination. 8 were Anti-HBc +ve.

Of the 9 HBsAg positive haemophiliacs, 6 were tested for HBeAg and Ab. 4 were HBeAg positive and 2 were Anti-Hbe positive. There were insufficient sera to test 3 of HBsAg positive sera for HBe markers.

It was found that haemophiliacs had an increased prevalence of Hepatitis B markers. The giving of free Hepatitis B vaccines to all haemophiliacs should protect them from the possible risk of developing hepatitis B.

10. HUMAN ANTIBODY RESPONSES TO DENGUE VIRUS INFECTION

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A study of dengue virus polypeptides resolved by gel electrophoresis and its corresponding human antibody responses was carried out using immunoblotting and enzyme immunoassay techniques.

The sera from the 49 patients analysed showed response to the envelope glycoprotein E (GP60), its cleavage product (GP54) and precursor matrix protein PreM (GP20). Antibodies to non structural proteins NSI (GP46) NS3(P67) NS5(P98) were found to vary among patients. From analysis of 20 paired sera, there was an increase in the level of antibodies for the viral proteins between the acute and convalescent sera. The protein specificities

of total IgG and IgG subclasses showed that i) GP60, GP54, GP20 induced all four IgG subclasses in all sera. ii) additional response to GP46 was seen in the more severe category of disease. Qualitatively IgG1 and IgG4 had best binding to viral proteins followed by IgG3 and then IgG2.

Further studies are warranted to fully elucidate the importance of individual proteins especially NSI (GP46) for which data is lacking to compliment intensive efforts in trying to make available a dengue virus vaccine that would be effective against all four serotypes.

II. PREVALENCE OF ANTICHLAMYDIAL ANTIBODY IN MALAYSIANS

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Chlamydial serology, though generally considered to be of little use as a diagnostic tool for individual patients, has been shown to play an important role in defining the epidemiology of chlamydial infections. This study was undertaken to find out the extent of exposure to chlamydial organisms among Malaysians.

Sera collected from various sections of the Malaysian community were tested for antichlamydial antibody by the fluorescent antibody staining technique using the C. trachomatis Spot IF Kit (bio Merieux, France).

Of 875 sera tested, 373 (42.6%) were positive. The prevalence of antibody varied with age and sexual exposure and ranged from 10–16% among children under 10 years to 94.4% among prostitutes. There are indications that young girls under 30 years of age and pregnant women are more susceptible to infection and that C. trachomatis may be an important cause of infertility among Malaysian women.

12. AN INVESTIGATION OF HAEMATOPORPHYRIN DERIVATIVE TOXICITY ON MURINE ORGANS

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Photodynamic therapy (PDT) using haemato-porphyrin derivative (HpD) is a new technique currently being investigated for both diagnosis and treatment of a variety of human malignancies.

Our study aims to investigate the effect of HpD without photoactivation on normal tissues. Healthy eight-week old ICR mice were injected intravenously with 6, 118 and 176 mg HpD/kg body weight and sacrificed on the first, third, fifth, tenth and fifteenth day after injection. No morphological abnormalities were observed in the brain, heart, lung, kidney, gonads and marrow. Only the liver was affected. Liver damage ranging from mild isolated cell necrosis to massive zonal necrosis occurred during the first 10 days after injection. Increasing HpD dosage caused increasingly severe liver damage. Recovery was established by the fifteenth post injection day.

In view of the hepatocytic injury (although minimal) caused by the therapeutic dosage of HpD (6 mg HpD/kg body wt.), liver function monitoring of patients undergoing HpD-PDT is suggested.

13. SELENIUM STATUS IN RHEUMATOID ARTHRITIS

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The main aim of this study was to estimate the blood selenium levels and Glutathione peroxidase (GSH-Px) activity in patients with rheumatoid arthritis.

Blood selenium was estimated by flameless atomic absorption spectrometry and the GSH-Px activity was measured spectrophotometrically.

When compared to the healthy controls, it was found that patients with acute rheumatoid arthritis showed no alteration in the selenium levels or the GSH-Px activity. However, patients with chronic rheumatoid arthritis exhibited alteration of both parameters.

In conclusion, we feel that selenium is affected in chronic rheumatoid arthritis and this could possibly be due to a deficient micronutrient status observed during inflammatory processes.

ABSTRACTS OF POSTER PRESENTATIONS.

P1. DETECTION OF GROUP A STREPTOCOCCAL ANTIGEN BY ENZYME IMMUNOASSAY

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An enzyme immunoassay kit for the detection of streptococcal antigen was evaluated. The assay was used to detect the presence of group A streptococcal antigen in pharyngeal specimens of 64 patients comprising 43 cases of upper respiratory tract infection, 6 of rheumatic heart disease and 15 of acute glomerulonephritis. Culture on bovine food agar was carried out simultaneously. All beta-haemolytic streptococci were serogrouped with a commercial kit, the Streptex (Wellcome). Serum from 21 cases was also evaluated for the presence of antibodies against streptolysin O (ASO) using standardized technique. Group A streptococcal antigen was detected in 31% (20/64) specimens of which only 15% (3/20) were culture positive for group A streptococcus. However raised titres to ASO (> 160 I.U.) were demonstrable in 7 out of 8 samples available from this group.

Group A streptococcal antigen was not detected in specimens from 44 cases, all of which were also culture negative. This is a preliminary report on the detection of group A streptococcal antigen by enzyme immunoassay from our centre. Further studies are indicated, including a larger number of specimens, before it can be recommended as an additional test for the diagnosis of streptococcal pharyngitis.

P2. ASSOCIATION OF APPLIANCE STOMATITIS WITH CANDIDA INFECTIONS

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This investigation was undertaken to provide information on the association of infection by Candida species in patients wearing removable appliances with or without clinical evidence of stomatitis.

100 patients with upper removable orthodontic appliances treated at Faculty of Dentistry, University of Malaya were screened for Candida using culture methods. Swabs were taken from the palatal surfaces (test sites), buccal and labial mucosa (control site) and fitting surfaces of the appliances. At the same time evidence of stomatitis was noted and graded according to Budtz-Jorgensen criteria (1969) The colony forming unit (cfu) of Candida species were quantitated and evaluated according to method use by Budtz-Jorgensen and Bertram (1974).

Result from cfu showed that 68% of the smear taken from the fitting sites grow more than 25 colonies as compared to test site (7%) and control site (1%). About 65% of isolates were Candida albicans, 17% C. parapsilosis, and 15% Torulopsis famata. Patients with moderate and severe appliances stomatitis showed increased in number of cfu of Candida as compared with patients with no evidence of stomatitis.

P3. HTLV-I ANTIBODY STUDY IN NORMAL INDIVIDUALS AND UNSELECTED HOSPITAL PATIENTS.

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A serological study of human T cell leukaemia virus I (HTLV-I) was carried out at the University Hospital, Kuala Lumpur. Serum antibodies against HTLV-I were looked for using an enzyme-linked immunosorbent assay (Elisa). Repeatable positive reactions on the Elisa were then investigated further using Western Blot and radio-immunoprecipitation (RIPA). A total of 626 sera from a non-patient population and 1038 sera from unselected in-patients were tested. On the Elisa screening test 149/1664 (9.0%) were found to be positive. However, on western blotting, only 2 sera were confirmed positive, both showing reactions for the major core (p24) and the envelope (gp 46) proteins. Both of the specimens were from unselected hospital patients. One third of the sera showed indeterminate reactions on western blotting. These were tested by RIPA; none of these sera gave a positive reaction. Therefore, 2/1038 (0.19%) unselected patients had antibodies to HTLV-I. None of the normal individuals screened showed a positive western blot result. However, it is interesting to note that 2 normal sera were reactive for several core proteins —

p19, p26, p28 and p36 in both cases. A third sample showed a strong response to the major core protein p24.

P4. FREEZE-DRIED HAEMOGLOBIN CONTROLS FOR HAEMOGLOBIN ANALYSIS

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Freeze-dried mixtures of different haemoglobin solutions were used in cellulose acetate electrophoresis to study the feasibility of using this technique to provide a constant supply of known control samples for the investigation of haemoglobinopathies.

Haeniolysates containing haemoglobins A, F, S, E were prepared, stabilized with two drops of 3% KCN and mixed in suitable proportions. The mixture was then aliquoted in 100 ul volumes and kept frozen at -20°C for at least 48 hours before freeze-drying. The freeze-dried aliquots were then stored at -20°C until use.

To test the stability of the freeze-dried samples, an aliquot was reconstituted with distilled water weekly and subjected to cellulose acetate electrophoresis using TRIS-EDTA-borate buffer pH 8.9 for 60 - 90 minutes. For comparison, a normal haemoglobin sample and a non-freeze-dried haemoglobin mixture were electrophoresed together. The strips were stained in ponceau S for viewing. The results so far have shown that mixtures of haemoglobins can be completely freeze-dried quite easily and the product is readily soluble in distilled water. Stained electrophoresis strips have not indicated shifting of the positions of the bands of the different Hbs in the freeze-dried samples.

As such, freeze-drying appears to be a simple and reliable method of preserving and storing of mixtures of haemoglobins as control samples.

P5. COLLECTION OF PLATELETS FOR IN-VITRO STUDY USING COLUMN CHROMATOGRAPHY

LIM LH, LIM YC, SEAH LH, MEGAT R. CHEONG SK

Platelets can be separated from their plasma environment for in-vitro study by repeated centrifugation and resuspension. However, in this method, platelets may undergo clumping, be damaged or rendered abnormal as a result

of centrifugal force. We evaluated an alternative method of platelet collection using column chromatography technique.

Plastic serological pipettes (diameter 0.8 cm) packed with sepharose 2B under unit gravity to a height of 19.5 cm were used in the study. Pooled platelet-rich plasma (PRP) from 5 normal adults collected in acid-citrate-phosphate were used for evaluation. PRP was layered onto the column and platelets were collected as they were first eluted out with phosphate-buffered saline. Platelets were studied for the yield, morphology under scanning and transmission electron microscopy, and aggregation properties, before and after the elution.

We conclude that column chromatography gives good yield of platelets which are free of plasma contaminants, unaltered in morphology under electron microscopy, and have normal aggregation functions.

P6. QUANTITATION OF FREE ERYTHROCYTE PORPHYRINS BY SPECTROFLUOROMETRY

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Free erythrocyte porphyrins (FEP) were classically measured photometrically after repeated partitions between HCL and organic solvents. This procedure is time consuming and requires venous blood. As a result, measurement of FEP is not employed in clinical diagnosis. We have experimented with an alternative technique which makes use of fluorescence properties of free erythrocyte porphyrins.

40 ul of blood was added to a mixture of ethyl acetate/acetic acid (4:1). The resultant supernatant was mixed with HCL and FEP in HCL phase was measured by a spectrofluorometer. 31 routine blood samples with normal haemoglobin and red cell indices showed a mean value of 27.9 ug/100 ml RBC (Range : 21.0 - 37.5). 44 blood samples with low haemoglobin and hypochromic microcytic red cell indices as well as clinical evidence of nutritional anaemia had a mean value of 71.1 ug/100 ml RBC. (Range : 39.5 - 157.5). Precision study obtained from a single sample with normal haemoglobin and red cell indices using this method had a coefficient variation of 7.3%.

We conclude that this method is useful to distinguish red cells with normal haemoglobin and red cell indices from those with

hypochromic, microcytic red cell indices and clinical evidence of nutritional anaemia. The small volume of blood in the sampling is particularly useful for laboratory serving the paediatric population.

P7. EVALUATION OF THE COULTER COUNTER T540

LIM YC, CHEONG SK

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The Coulter T540 was evaluated to determine its reproducibility, carryover and linearity in all its parameters namely WBC, RBC, Hb, Hct and PLT. The values for these five parameters for 89 consecutive blood samples from the haematology laboratory were also compared with those obtained from the Coulter M530, the current analyser of the same laboratory.

In this study, normal whole blood, packed and diluted red cells, whole blood with a high white cell count and a platelet concentrate were used to test the reproducibility of the counter. Packed red cells, platelet concentrate and a sample of whole blood from a patient with CGL were diluted down to different proportions with saline to determine the linearity in all the parameters.

The WBC parameter exhibited within batch coefficient of variation (CV) of below 3% for counts at normal, low and high levels, while that of the RBC parameters were less than 1%. The CVs for normal and high platelet counts were below 3% but was about 5% for low platelet count. Between-batch CVs for all the parameters at all levels were below 5% except that of the low WBC which gave a between-batch CV of 7%. Good linearity and negligible carryover were demonstrated in all the 5 parameters. The comparison study showed that the counts obtained from the Coulter T540 were comparable to those of the Coulter N530. Correlation coefficients (r) ranged from 0.90 - 0.99.

From this study, the Coulter T540 proves to be a simple, accurate and reliable instrument that can provide the 5 basic haematologic counts required by most clinical laboratories. Minimum daily maintenance is required. It is provided with an automatic calibration program which will recalibrate all the 5 parameters on keyboard instructions when necessary. We have not encountered any problem during the test period.

P8. THE STATUS OF HAEMOGLOBIN H SYNDROMES IN WEST MALAYSIA : GENOTYPE TO PHENOTYPE

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The clinical spectrum of haemoglobin H (Hb H) disease varies from a benign disorder to a severe anaemia which may be transfusion dependent. Heterogeneity at the clinical level is now being understood in terms of the underlying molecular defect.

Haematological and DNA studies have identified the common molecular defects in 28 patients with Hb H disease from west Malaysia. 16 (57%) of patients were shown to have α thalassaemia of the southeast Asian type ($\alpha\alpha$ /SEA) in association with non-deletional α thalassaemia ($\alpha\alpha$ T/) to give the genotype ($\alpha\alpha$ T/—SEA). Haemoglobin analysis showed that Hb Constant Spring was the usual abnormality leading to non-deletional thalassaemia.

Comparisons of the clinical parameters, the necessity for blood transfusions, thalassaemic facies, and bilirubin levels show that the Hb H group with the non-deletional DNA defect has the more severe disorder.

P9. DIPHENYLHYDANTOIN ASSOCIATED LYMPHADENOPATHY - REACTIVE OR MALIGNANT?

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Long term use of diphenylhydantoin has been associated with lymphadenopathy. Some were reported as cases of malignant lymphoma. It is also well known that the lymph node biopsy in cases of reactive lymphadenopathy due to the hydantoin group may produce an appearance closely resembling malignant lymphoma. We describe a case of an epileptic developing lymphadenopathy after fifteen years of diphenylhydantoin therapy. The lymph node biopsy was reported to be Hodgkin's disease. However immunochemical study using anti-K1-1 was negative and on cessation of diphenylhydantoin, the lymphadenopathy regressed.

We believe that the patient has a reactive lymphadenopathy secondary to diphenylhydantoin therapy.

P10. COAGULOPATHY IN WOMEN WITH PRE-ECLAMPTIC TOXAEMIA

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Pre-eclampsia is commonly seen in Obstetric practice. In Hospital Universiti Sains Malaysia, there were 789 admissions for pre-eclampsia from January to December 1988. This comprised of 7.6% of the total admissions into the Obstetric ward. Twenty of these cases (2.5%) had clinically bleeding problems requiring blood transfusion.

This study deals with some changes in platelet aggregation and the hypercoagulable state in pre-eclampsia. The following parameters were assessed: platelet aggregation, prothrombin time, partial thromboplastin time, fibrinogen, fibrin monomer and fibrin degradation products. Anti-Thrombin III activity was assessed in 56 women in the third trimester of pregnancy with pre-eclampsia. Three women in their third trimester of normal pregnancy and one non pregnant female served as the controls. Platelet aggregation was done using a platelet aggregometer. All coagulation parameters were assessed using standard procedures.

There was no difference in platelet aggregation between normal pregnant and non pregnant women. However, platelet aggregation induced by ADP and collagen were lower in severe but increased in mild and moderate pre-eclampsia compared to normal pregnant women. There was no significant difference in the prothrombin time, partial thromboplastin time and plasma fibrinogen. Eleven out of 20 (55%) pre-eclamptic cases had detectable fibrin monomer in their plasma. Platelet count was found to be lower in the pre-eclamptic groups than normal pregnancy. Anti-Thrombin III level was lower (40–80%) in 80.4% of women with pre-eclampsia in the third trimester of pregnancy. The normal range for Anti-Thrombin III is 80 – 108%.

P11. MICROWAVE-STIMULATED FIXATION TECHNIQUE IN LIGHT AND ELECTRON MICROSCOPY

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The use of microwave for histopathological examination has stimulated considerable

interest in recent years. We have experimented with microwave-stimulated fixation on tissues for light microscopy and electron microscopy. In this study a domestic microwave oven (Sanyo EM-1412GYS) operating at a frequency of 2.45 GHz with an output power of 500W was used. Heating curves for various power settings were calibrated. Freshly removed rat kidney, liver, heart and brain tissues were immersed in 10% buffered-formalin and 4% glutaraldehyde respectively. Microwave-stimulated fixation was carried out immediately by irradiating the tissues at various temperatures (the duration was of the order of two to three minutes). A control group of similar tissues were fixed in similar fixatives overnight. All the specimens were subsequently processed according to routine methodology. Light and electron microscopy of microwave-stimulated fixed tissues showed well-preserved architecture and fine cellular details comparable to those fixed by conventional methods. The optimal temperature range was found to be between 50°C and 55°C.

Renal biopsy specimens were also microwave fixed and the cellular and ultrastructural preservation was excellent. Our preliminary data indicate that microwave-stimulated fixation technique is reproducible and can be effectively applied in diagnostic pathology.

P12. PRIMARY LOCALIZED CUTANEOUS AMYLOIDOSIS IN MALAYSIANS

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Although papular (lichen) amyloidosis is known to occur frequently among Malaysians there is little published information on the histopathological and immunohistochemical characteristics of primary localized cutaneous amyloidosis (PLCA) in this region. This study was carried out to record basic demographic and pathological aspects of PLCA in a Malaysian population.

Consecutive biopsies from 85 patients with PLCA received by the Department of Pathology, University of Malaya over a 14.5 year period were reviewed. The patients' ages range from 10 to 70 years. On clinicopathological grounds, 63 (74%) were categorised as papular amyloidosis (PA) and 22 (26%) as macular amyloidosis (MA). Nodular amyloidosis was not present in this study. There was no difference in age distribution between PA and MA. A female

preponderance was observed for both types of PLCA. PLCA affected the Chinese more frequently than the other major ethnic groups. MA was more common than expected among the Indians.

Histologically, PA differed from MA by the larger size of amyloid deposits in the papillary dermis. There was no difference in their tinctorial and immunohistochemical characteristics. Deposits exhibited green-birefringence with alkaline Congo red, were permanganate-resistant and failed to express immunoreactivity with anti-AA protein. Immunoglobulin lambda and kappa light chains were not detected. Strong immunoreactivity for AP protein was observed.

MA was not found to be associated with any other disease. Of patients with PA, 1 suffered from systemic lupus erythematosus, 1 from scleroderma and in another, connective tissue disease had been queried. No suggestion of systemic amyloidosis arose from studying any patient in this series.

P13. A HISTOLOGICAL STUDY OF NEPHROBLASTOMA IN THE UNIVERSITY HOSPITAL, KUALA LUMPUR: 1968-87.

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In the 20-year period between 1968 and 1987, 30 cases of nephroblastoma (Wilm's tumour) of the kidney were histologically confirmed at the Department of Pathology, University of Malaya. The ages of the patients ranged from 1 month to 7 years. The male:female ratio was 1.1:1. 14 patients were Chinese, 12 Malay and 1 Indian.

In 26 cases, the tumour appeared as a solitary intrarenal nodule. In 2, multiple nodules were observed. One patient had bilateral nephroblastoma. In general, the histological features were classical of nephroblastoma. Only 2 tumours showed features of anaplasia. 89% of assessed tumours showed evidence of capsular invasion and 56% had vascular invasion.

P14. AGGRESSIVE ANGIOMYXOMA OF THE VULVA

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A 56 year old Indian woman presented with a vulval growth which was clinically thought to be a Bartholin's cyst. On excision, it was observed to be an unencapsulated, well circumscribed, 10 x 10 cm soft mass with a smooth, glistening cut surface. Histologically, the lesion was characterised by a proliferation of blood vessels of varying sizes in a loose, myxoid stroma with cytologically bland spindle-shaped cells. Mitotic activity was negligible but the tumour demonstrated an infiltrative growing edge. The morphological features are characteristic of an aggressive angiomyxoma, a distinctive gynaecological soft tissue neoplasm first described by Steeper and Rosai in 1983. Typically confined to the pelvis and perineum, this tumour is rare, shows a predilection for females, has no known predisposing cause, is locally aggressive and shows a high recurrence rate. To date, no known case of metastases has been reported. We emphasise the importance of recognising this entity to prevent misdiagnosis on clinical and morphological grounds and to ensure adequate excision and follow-up in view of its high recurrence rate.

P15. MALIGNANT TUMOURS OF THE OVARY

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This is a retrospective study to determine the pattern of malignant tumours of the ovary seen in the Dept. of Pathology, UKM. During the 5-year period between 1983 and 1987, 103 cases were seen. The ages of the patients ranged from 12 to 77 years. 50 were Malays, 41 Chinese, 10 Indians and 2 were Eurasians. The tumours were classified according to WHO classification. 69(67%) were common "epithelial" tumours and 20(19.4%) were serous cystadenocarcinomas. 16 (15.5%) were germ cell tumours, 8(7.8%) were dysgerminomas, 4(3.9%) were of sex cord stromal tumours and 14(13.6%) were metastatic tumours.

P16. DEFINITIVE DIAGNOSIS OF MEDULLARY CARCINOMA OF THE THYROID BY FINE NEEDLE ASPIRATION CYTOLOGY (FNAC), IMMUNOHISTOCHEMISTRY AND ELECTRON MICROSCOPY (EM)

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A 28 year old Chinese lady presented with severe paralytic ileus. There was a family history of phaeochromocytoma and medullary carcinoma of thyroid in 2 siblings. She was hypertensive (240/140 mmHg) with tachycardia. On examination, she was found to have a thyroid swelling. Phaeochromocytoma was confirmed biochemically, by CT scanning and I^{131} Meta-iodo-benzyl-guanidine (MIBG) scanning.

Fine needle aspiration cytology (FNAC) confirmed the diagnosis of medullary carcinoma of thyroid. She underwent bilateral adrenalectomy and subsequently total thyroidectomy was done. Histopathological examination confirmed phaeochromocytoma and medullary carcinoma. FNAC showed the presence of amyloid, characteristic medullary carcinoma cells with cytoplasmic secretory granules, which on electron microscopy confirmed the presence of cytoplasmic neurosecretory granules. Immunohistochemical stains for calcitonin were also positive in the tumour cells.

P17. PERCUTANEOUS FINE NEEDLE ASPIRATION BIOPSY OF CHEST LESIONS

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In a 3 year period between 1985 & 1988, 286 percutaneous fine needle aspiration (FNA) biopsy of the lung were carried out for 280 patients. About 90% of patients were between 30 and 80 years of age. Males predominate in the ratio of 2.6 : 1. The majority (60%) of patients were ethnic Chinese indicating a predominance of pulmonary lesions in this community. A diagnosis of primary lung cancer was made in 57% of patients and malignant neoplasm metastatic to the lung in 5% of patients. There were 19% benign lesions and another 14% inconclusive result.

In patients where lung tissues were available, the diagnosis correlated well. In the 53 patients with benign lesions, an infectious organism or specific morphologic type of inflammation was detectable in 15 patients (25%).

Fine needle aspiration biopsy of the lung is a useful technique in the diagnosis of pulmonary lesions. It gives a relatively high pick up rate of about 86%.

P18. IMMUNOPHENOTYPING OF LYMPHOMAS

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A study was done on 57 cases diagnosed at UKM as lymphoma between 1983 and 1987. Using the immunoperoxidase method on paraffin embedded material, sections were stained using antibodies ML, MT1, MT2, LNI and, when required, Leu M1. Using normal tonsillar tissues as controls ML and MT1 were reactive with T-cells, LNI reacted strongly with follicular cells, and MT2 with mantle B-cells as well as with follicular cells but to a lesser degree. Non-Hodgkin's lymphoma was classified according to the Working Formulation. There was one low grade lymphoma (B-cell), 29 lymphomas of intermediate grade (26 B-cell, 2 T-cell, 1 null), and 19 cases of high grade lymphoma, including 13 large cell immunoblastic types (9 B-cell, 4 T-cell), 5 lymphoblastic (4 T-cell, 1 B-cell) and one small non-cleaved B-cell lymphoma.

Hodgkin's disease nomenclature was according to the Rye classification. These were 8 cases of Hodgkin's disease (2 nodular sclerosis, 1 lymphocyte predominance, 3 mixed cellularity, 1 lymphocyte depletion) and one case, a liver biopsy, was unclassifiable. Leu M1 was a useful marker for Reed-Sternberg cells and was positive in 7 of 8 cases.

Immunohistochemistry, when performed and interpreted by experienced personnel is valuable in typing lymphomas. It also is helpful in differentiating lymphoma from anaplastic malignant tumours and from reactive lymphoid tissue.

This study suggests that Hodgkin's disease and low grade non-Hodgkin's lymphomas, both follicular and small lymphocytic, are much less frequent than in Western countries, and that B-cell lymphomas of intermediate and high grade are proportionately more frequently seen.

A more comprehensive survey of malignant lymphoma in Malaysia should be done.

