

The Malaysian Society of Pathologists: 13th Annual and Scientific Meeting.

The 13th Annual General and Scientific Meeting was held at the Malacca Village Resort, Malacca on 22–24 October 1988.

Abstracts of the scientific communications follow:

PAPER PRESENTATIONS:

1. AN ASSESSMENT OF IMPRECISION IN CLINICAL CHEMISTRY

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18 commonly analysed serum constituents were assessed for their imprecision. Assayed human serum and unassayed bovine serum were used during a four months' programme. The analytical performances were compared with various other analytical goals:

- variances derived from clinicians' opinions.
- tolerable analytical variability based on biological variations and
- performances achieved by various survey programmes.

All of the 18 analytes except calcium, potassium and sodium met the current analytical goals of different approaches. The reasons for these exceptions will be discussed.

2. EVALUATION OF ENGERIX-B VACCINE IN HEALTHY MALAYSIAN MEDICAL STUDENTS

Irina I. Yasmin A M, Abdul Shukor H, Rosmadi B

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The efficiency of Engerix-B vaccine, a recombinant yeast vaccine produced by Smithkline Biological, to produce immunity against hepatitis B was evaluated. 42 nonimmune Malaysians medical students were vaccinated with 1.0 ml (20 mcg HBsAg) of the vaccine at 0, 1, 6 months.

No serious adverse reactions were noted. The main side-effect was pain and soreness at the injection site. 3 subjects (7.9 – 9%) seroconverted after 1 month; 52.6% seroconverted after 2 months and 76.3% after 3 months. 3 months following the 3rd dose, all subjects had undergone seroconversion. This study confirms that the Engerix-B vaccine is safe, well-tolerated and highly immunogenic and a suitable alternative to plasma-derived hepatitis B vaccine.

3. DIAGNOSIS AND CLASSIFICATION OF ACUTE LEUKEMIA – A REVIEW OF 139 CASES FROM UNIVERSITY HOSPITAL, KUALA LUMPUR

Ng S C, Kuperan P

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The diagnosis and classification of acute leukemia is important from the viewpoints of treatment and prognosis and the desirability to have uniform communication between centres. This study reviewed the diagnostic experiences in 139 consecutive cases of acute leukemia seen in University Hospital in the year 1987. The FAB group criteria was used whenever possible. 113 (81%) cases were classified into respective FAB subgroups. In 26 patients, the typing and/or subtyping of acute leukemia were problematic mainly due to:

- undifferentiated nature of blasts (15 patients)
- mixed populations of blasts (5 patients)

Immunophenotyping performed on 11 problematic cases provided positive immunotypes in 8 patients. 2 cases of hybrid acute leukemia were identified. Careful and repeated review of materials allowed diagnosis in 4 other cases while overseas consultations further characterized 2 other cases. Other investigations including serum and urine lysozyme studies enabled typing in 2 cases. 5 (3.5%) patients 'remained' as acute unclassified leukemia (AUL).

4. CRYPTOCOCCOSIS-POSTSPLENECTOMY?

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In November 1984 a 60-year-old Indian lady, who was a vegetarian, presented with pallor and splenomegaly. Investigations were done and she was treated with hematinics. However on follow up over the years her anaemia did not improve despite on hematinics and the spleen progressively

enlarged. She developed pancytopenia and became transfusion dependent. Splenectomy was done in December 1987. Following the operation she still required transfusions to maintain her haemoglobin. In June 1988 she developed cryptococcal meningitis and was treated with amphotericin B and flucytosine. Since then her haemoglobin level was stable without further transfusion. It is probable that the patient had chronic cryptococcosis from the outset.

5. A PATHOLOGY IMAGE DATABASE SYSTEM: DESIGN CONSIDERATIONS

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Pathology databases have been providing useful services to the pathologists; however the existing databases consist purely of data. With the advent of advanced image capturing and display systems, a new dimension is opened up by merging real-life colour pictures with database management system to form an image database system.

Such a system has been designed in our department using the present microcomputer-based image analysis system with the aim of providing an organised, integrated database consisting of both pictures and data. The system is implemented using dBase III Plus as database management software and HALO as the graphics interface software for image capturing and display. The advantages of this system are on-line ability, rapid storage and retrieval, sharing of resources amongst pathologists.

The requirements of such an image database : large and inexpensive storage, high quality picture, powerful database management system are discussed. This system has been designed for several applications: Computer-Aided Instruction for teaching and training; storage of individual cases for diagnostic consultation, quantitative analysis and presentation; case conferencing through networking.

6. HISTOPATHOLOGICAL PATTERN OF LYMPH NODE BIOPSIES SEEN IN A UNIVERSITY UNIT

Phang K S, Cheong S K, Mancer K

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Between January 1983 and December 1984 a total of 327 specimens of lymph node

biopsies were received by the Department of Pathology UKM and the results were reviewed. It was found that the biopsies were performed for the following categories of indications: 1) localised lymphadenopathy 2) generalised lymphadenopathy 3) during operation for malignant tumours and 4) incidental lymphadenopathy during operation for non-malignant conditions. The four most common histopathological diagnoses in descending order were : non-specific lymphadenitis, tuberculous lymphadenitis, metastatic malignancies and malignant lymphoma. Cases of non-Hodgkin's lymphoma were immunophenotyped. The most common variety was diffuse non-Hodgkin's lymphoma of B cell origin.

7. A COMPARATIVE STUDY OF ACETYLCHOLINESTERASE HISTOCHEMISTRY AND CONVENTIONAL HAEMATOXYL IN-EOSIN HISTOLOGY OF RECTAL BIOPSIES IN THE DIAGNOSIS OF HIRSCHSPRUNG'S DISEASE

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A study was designed to compare the technique of acetylcholinesterase histochemistry and conventional haematoxylin-eosin histology of rectal biopsies in babies and children suspected to have Hirschsprung's disease.

Rectal suction biopsies were performed in infants and punch biopsied in older children.

38 patients were included in the study. There were 25 males and 13 females. 20 patients were diagnosed as Hirschsprung's disease and 18 as not having Hirschsprung's disease. There was complete agreement between the two techniques used.

Results were available on first biopsies in all cases using the technique of histochemistry. 9 patients required repeat biopsies because the specimens were inadequate for histological assessment.

It was found that the technique of histochemistry is just as accurate as conventional histopathological examination in the diagnosis of Hirschsprung's disease. A combination of these two diagnostic procedures may provide greater confidence in the diagnosis of Hirschsprung's disease in children.

8. NECROBIOTIC XANTHOGRANULOMA - A CASE REPORT

Norhayati O, Sabariah A R
Universiti Sains Malaysia

A 36-year-old Malay man presented with a large ulcerating mass around the tendoachilles. The mass was clinically malignant.

A similar mass had been excised previously. The mass was diagnosed as Necrobiotic Xanthogranuloma. The clinical features, pathology, and its association with hyperlipidaemia, neutropenia, paraproteinaemias and diabetes mellitus are discussed.

9. THE PREVALENCE OF *CAMPYLOBACTER PYLORI* IN GASTRIC BIOPSIES FROM PATIENTS WITH GASTRITIS

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Gastric biopsies from patients with complaints of gastritis were obtained on endoscopic examination. The biopsies were examined for the presence of *Campylobacter pylori* by:

- a) Cram stain of direct impression smears
- b) Warthin Starry method
- c) H and E staining
- d) rapid urease test
- e) culture

The relative merits of the various tests in the rapid detection of *Campylobacter pylori* are discussed.

10. THE APPLICATION OF IMMUNO-FLUORESCENCE TECHNIQUE IN FORMALIN-FIXED PARAFFIN-EMBEDDED RENAL BIOPSY TISSUE

Peh S C, Lim M Y

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Immunohistochemistry plays an important role in the diagnosis of glomerular disease and immunofluorescence technique has traditionally been the method of choice. However it requires the tissue to be received fresh. This constraint makes it difficult for many centres to enjoy the facility.

We have successfully adapted this technique to be used on formalin-fixed paraffin-embedded tissue. 10 cases will be used for illustration and discussion.

POSTER PRESENTATIONS:

P1. MULTIPLE MYELOMA: A STUDY OF 26 CASES FROM UNIVERSITY HOSPITAL

Wong K T, Ng S C, Kuperan P, Yap S F, Bosco J, Menaka N, Chan G L

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26 cases of multiple myeloma which fulfilled the required diagnostic criteria were studied retrospectively. These cases were diagnosed in the Haematology Division, Department of Pathology between 1980 and 1987.

There were no cases younger than 40 years. 44.4% were in the 40–60 age group and 55.6% were > 60 years old. (Males and females were affected almost equally). Only 3.7% of patients had haemoglobin concentration > 12 g/dl. The majority of patients (66.7%) had normal white cell counts while thrombocytopenia (platelet count $150 \times 10^3/\mu\text{l}$) was present in 55% of cases. ESR was markedly raised (> 100 mm/hr) in 62.5% of patients. In 70.8% of cases, plasma cells constitute > 30% of nucleated cells in the bone marrow. Trepine biopsies in 11 showed similar findings to bone marrow aspiration. Serum paraproteins were present in 25 patients. Of these 68.2% were IgG and 27.3% IgA. K light chains formed 70.6% and the rest being L chain. Typical osteolytic lesions were seen in 76% of cases.

P2. EVALUATION OF THE SINGLE INCUBATION DOUBLE ESTERASE CYTOCHEMICAL REACTION USING A SINGLE COUPLING REAGENT

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The use of substrates specific for enzymes in granulocytic and monocytic cells allows identification of acute leukemic cells of these lineages. Most methods previously described require staining of slides twice using separate coupling reagents. In this poster, we describe our experience using a combined coupling reagent on a single slide using the method of Swirsky.

P3. PROCESSING OF THE EYEBALL IN UKM

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The eye, a special sensory organ is, composed of ectodermal, partially pigmented mesodermal, and markedly differentiated neuroectodermal elements. It has a complex microarchitecture and to preserve this, the eye should be processed whole and treated differently from other surgical specimens. The method used in the Department of Pathology, UKM will be described. From November 1987 to July 1988, a total of 18 eyeballs with various pathologies have been processed by this method. Results show that good thin sections with preservation of the microarchitecture can be obtained making microscopic interpretation easier.

P4. MITCHONDRIAL MYOPATHY – A CASE REPORT

Isa R

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Mitochondrial myopathies are a complex and clinically heterogenous group of neuromuscular disorders often classified with the metabolic myopathies. Electron microscopy has revealed various structural abnormalities in the mitochondria. These probably reflect various mitochondrial enzyme deficiencies.

We present a case of 31-year-old Malay man who presented with a 5 year history of drooping of the eyelids, difficulty in eye movements and exertional weakness associated with muscle cramps.

Physical examination showed bilateral ptosis, ophthalmoplegia and proximal muscle weakness with no sensory deficit. Fundoscopy showed bilateral **retinal** depigmentation.

A quadriceps muscle biopsy showed nonspecific morphological changes on routine staining. A modified Gomori **Trichrome** stain however showed the subsarcolemmal "eye ragged fibres" characteristic of this group of disorders. Recognition of this disorder as a group is possible with histochemistry and, if necessary, electron microscopy.

P5. FAMILIAL HYPERLIPIDAEMIA TYPE V – A CASE REPORT

Mazidah A M*, Othman M**

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A 26-year-old woman, 32 weeks pregnant, was admitted for investigation of acute abdominal pain. The provisional diagnosis was acute pancreatitis. Serum and urinary amylase activities were elevated. Her serum was turbid with a thick chylomicron layer. **Lipid** analysis gave a triglyceride level of 35 mmol/L and total cholesterol of 16.5 mmol/L. The subject was managed conservatively and investigated again 24 weeks after delivery. Serum **lipid** analysis then gave the following values: triglycerides 5.94 mmol/L, cholesterol 3.91 mmol/L. Standing serum test showed an opalescent lower layer with a creamy chylomicron upper layer. Secondary causes of hypertriglyceridaemia were excluded. Subsequently, the patient had another episode of abdominal pain with also an associated elevation of triglyceride level. Study on other members of the family together with results of further investigations are discussed.

P6. INFANTILE POLYARTERITIS NODOSA : A CASE REPORT

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Infantile polyarteritis **nodosa** is a rare disease. We present a case in a 11 month old male Indian child with initial complaints of fever and swelling of hands and feet. While in hospital, his symptoms progressed to severe hypertension, myocardial ischaemia and dry gangrene of the toes. Investigations showed high platelet count and ESR. Two initial skin biopsies were inadequate for diagnosis. Steroids were started. A repeat skin biopsy during disarticulation of the gangrenous toes showed treated vasculitis, with thrombosis of the affected vessels. Gangrene of the digits is a rare complication in infantile **PAN**.

P7. EVALUATION OF THE CONTRAVES AUTOLYSER 801

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The Contraves Autolyser 801 is a quantitative automated haematology counter which can produce 20 haematologic parameters for a single sampling. The parameters are WBC, RBC, Hb, Hct, MCV, MCH, MCHC, Plt, LYC, LYM, RDW, RDS, Pct, MPV, PDW, PDS, MOC, MON, GRAC, and GRA. The Autolyser was evaluated for a month in March 1988. Not all parameters were evaluated because of constraints. Comparison studies were performed between the Autolyser and the Coulter S-Plus IV of the Clinical Diagnostic Laboratories of the Universiti Hospital and between the autolyser and the Coulter M530 of the UKM Haematology Laboratory.

The Autolyser showed good precision for WBC, RBC, Hb, Hct, Plt by using normal, high and low samples. The coefficient of variation for all the parameters evaluated did not exceed 5%. There was negligible carry-over between specimens. Comparison with the Coulter S-Plus IV showed good correlation for WBC, RBC, Hb, MCV, Hct and Plt with correlation coefficients ranging from 0.97–0.98. Comparison with the Coulter M530 showed equally good precision for WBC, RBC, Hb, MCV, Hct with correlation coefficients ranging from 0.97–1.00. Linearity of measurement was demonstrated for the following parameters:

WBC $0-270 \times 10^9/L$; RBC $0-8.6 \times 10^{12}/L$;

Hb $0-22.6 \text{ g/dl}$; Hct $0-0.70$;

Plt $0-5151 \times 10^9/L$

The Autolyser was easy to operate and readily accepted by the routine staff. No major problem was encountered during the evaluation.

P8. EVALUATION OF THE COULTER COUNTER MODEL S-PLUS JR

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The Coulter Counter Model S-Plus Jr is a quantitative automated haematology analyser. It is capable of producing 16 haematologic

parameters at a time. The parameters are: WBC, RBC, Hb, Hct, MCV, MCH, MCHC, RDW, Plt, MPV, lymphocyte %, lymphocyte number, monocyte %, monocyte number, granulocyte % and granulocyte number. The Counter was evaluated for 2 weeks in June 1988. Comparison study was performed with the Coulter Counter Model M530 at the UKM Haematology Laboratory using both. Not all parameters were evaluated because of constraints. We found that the Counter showed good precision for WBC, RBC, Hb, MCV, and Plt, normal, high and low samples. The coefficients of variation did not exceed 5% even for the low and high samples. The Counter gave negligible carry over for RBC, Hb and Plt. Comparison study showed good correlation between JR and M530 for WBC, RBC, Hb, MCV, Plt, Hct. The coefficients of correlation ranged from 0.94 to 0.99. Linearity of measurement for were as follows:

WBC $0-64 \times 10^9/L$; RBC $0-8.6 \times 10^{12}/L$;

Hb $0-26 \text{ g/dl}$; Hct $0-0.75$; Plt $0-510 \times 10^9/L$

In the course of evaluation, no major problem was encountered. The Counter was easy to operate and the operator needed little training. There was ready acceptance of the Counter by the routine staff.

P9. WALDENSTROM'S MACROGLOBULINAEMIA : A CASE REPORT

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We report a case of Waldenstrom's macroglobulinaemia (WM) seen in our hospital. The diagnosis of WM in this 55-year-old Malay man was based on IgM paraproteinemia and a typical lymphoplasmacytoid marrow infiltrate. At presentation, he had severe anaemia (Hb of 5.5 g/dl) and was thrombocytopenic ($42 \times 10^3/\text{ul}$). The peripheral blood showed leucoerythroblastic picture with marked rouleaux formation and mild lymphocytosis. After treatment with chlorambucil and prednisolone, his counts normalized and he is currently well. The pathophysiology of this interesting disease will be highlighted.

P10. ALPHA-TOCOPHEROL IN CHRONIC RENAL FAILURE PATIENTS

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Alpha-tocopherol, malonaldehyde (MDA) concentrations and antioxidant activity (AOA) were determined in the serum of 50 chronic renal failure (CRF) patients and 50 healthy subjects. The alpha-tocopherol concentrations in the CRF patients showed statistically not significantly different from healthy normal subjects. However, serum AOA and MDA concentrations of the CRF patients were found significantly elevated compared with the healthy normal subjects. Increases in MDA concentrations were significantly positively correlated with the increases in serum AOA, indicating that in the CRF patients, the lipid peroxidation process is increased and this resulted in an increased serum AOA (i.e. compensatory response).

P11. METALLOPROTEIN IN THE CHRONIC RENAL FAILURE

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The serum antioxidant activity (AOA) is believed to be mainly dependent on the metalloprotein of human plasma, caeruloplasmin (copper-containing protein). Single immunodiffusion technique (Hoechst Pharmaceuticals) has been employed to study this plasma protein. Caeruloplasmin concentration in serum from CRF patients was found to be not significantly different compared with the serum from healthy subjects. Total serum AOA and conjugated diene concentration (a measure of peroxidation of polyunsaturated fatty acids) were also measured in parallel. The levels of AOA and conjugated diene concentrations were significantly raised in CRF patients. There was a strong positive linear relationship between the level of serum conjugated diene and AOA which provide further evidence that lipid peroxidation process occurred in CRF patients as shown by an increase in the lipid peroxidation product, conjugated diene. The findings also showed that serum caeruloplasmin did not contribute to increase in serum AOA.

P12. THE PATTERN OF LYMPHOMA AS SEEN IN THE UNIVERSITY HOSPITAL KUALA LUMPUR : PRELIMINARY DATA

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From the year 1983 to 1987, a total of 206 biopsies from 200 patients with **malignant** lymphoma were received in the Department of Pathology, University Hospital Kuala Lumpur. 161 (80.5%) patients had Non-Hodgkin's lymphoma and the remaining 39 (19.5%) patients had Hodgkin's disease. The overall male : female ratio was 1.8. The age of the patients ranged from 3 months to 77 years. The age distribution of Hodgkin's disease suggested a bimodal pattern with peaks in the 5-9 years age-group and in young and middle-aged adults. Non-Hodgkin's lymphoma showed a wider age distribution and was common in older patients of 50 years and above.

In the 2-year period, 1986 and 1987, there were 64 cases of histologically confirmed nodal lymphomas and 27 extranodal ones. This study shows that of the non-Hodgkin's lymphomas, 1/3 exhibited a morphological pattern suggestive of T-cell lymphoma and 1/3 were high grade lymphomas of various subtypes. No case of lymphocytic lymphoma nor immunocytoma were seen.

P13. FAVISM AND G6PD DEFICIENCY - A CASE REPORT

J Normah. K E Choo

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Favism as a cause of acute haemolysis in **G6PD** deficiency is increasingly seen in the University Hospital, University Sains Malaysia. From January to October 1988, cases of favism were seen in four different families. Here we report on one of the above cases. A 2-year-old Malay boy presented with anemia and jaundice after consuming cooked dried fava beans. All laboratory investigations confirmed haemolytic anemia and **G6PD** deficiency was confirmed by qualitative and quantitative method. Family studies done showed more than one sibling affected..

**P14. PRIMARY MALIGNANT LYMPHOMA
OF THYROID COMPLICATING
AUTOIMMUNE THYROIDITIS**

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E. Muthusamy**

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A 42-year-old Malay woman presented with progressive enlargement of thyroid gland for 1 year associated with raised antimicrosomal antibody. The histopathology of the thyroidectomy specimen showed extra nodal malignant lymphoma, predominantly diffuse in distribution of lymphoid cells, though a few poorly formed follicles were maintained. Subsequent screening failed to reveal any other primary focus. This case is presented to highlight a rare occurrence of malignant lymphoma of the thyroid gland complicating thyroiditis.

**P15. PAPILLARY CARCINOMA OF
LINGUAL THYROID**

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A 25-year-old man presented with goitre as well as a nodule in the tongue, clinically diagnosed as lingual thyroid. At operation, there was enlargement of left lobe but the right lobe of thyroid gland was absent. Total thyroidectomy and avulsion of the nodule were done. The histopathology showed papillary carcinoma in the thyroid as well as the lingual nodule. This rare presentation of papillary carcinoma of the thyroid gland and its remnant in the tongue is discussed.