The Association of Clinical Pathologists: 87th general meeting

The 87th general meeting of the Association of Clinical Pathologists was held at Imperial College, London on 23 and 24 September 1971. The meeting, as well as offering the opportunity for individual scientific communications, abstracts of which follow, included four symposia: 1 'Design of laboratories'; 2 'The WHO programme for the histological definition and classification of tumours'; 3 'Effects of centralization on laboratory services'; and 4 'Micrococci: the classification, ecology, and pathogenicity of coagulase-negative staphylococci'. The Presidential Address by A. G. Marshall was on 'The body politic in pathology'.

A Laboratory Study of Macrocytic Anaemia in the North-east Region of Scotland, 1965-70

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This survey is based on 812 laboratory proven cases of macrocytic anaemia (excluding macrocytic anaemia of pregnancy) detected on routine screening of blood samples submitted by the general practitioners of the N.E. Region during 1965-70 inclusive. Some of the epidemiological and laboratory findings, including the serum B_{12} and folate status, are presented and briefly discussed.

Of the 1,158 cases initially suspected of having a macrocytic anaemia on morphological grounds, 991 (85.6%) were followed up by the laboratory and of these 812 (81.9%) were found to have low serum B_{12} and/or low serum folate levels. Only 257 (25.9%) of the patients followed up were admitted to hospital for further investigation. The potential value of a diagnostic and advisory service in haematology for general practitioners is emphasized.

Association of White Cell and Red Cell Antibodies in Human Sera

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Five hundred and eighteen serum specimens containing known red cell antibodies were tested for the presence of anti-lymphocytic antibodies. The method used

was the microcytotoxicity technique employing the plastic Terasaki plates and rabbit complement.

Eighty-one of the 518 specimens tested were found to contain white cell antibodies, ie, 15%. Of these 81 sera, 39 contained antibodies which could be identified, 23 being monospecific 10 dispecific, and six containing more than two antibodies. The white cell antibodies in the other 42 specimens were either too weak to identify, polyspecific, or unidentifiable specificities.

The white cell antibodies were classified according to the WHO nomenclature (HL-A) and antibodies AA, BB, and LND were also found.

In the sample studied no significant correlation between any particular white cell and red cell antibodies was found. The most common red cell antibody in the 518 specimens was anti-D (87%). In the specimens containing white cell antibodies the frequency of this antibody was 83% which is not significantly different.

If a larger series of specimens was tested it might be possible to obtain some correlation between red cell and white cell antibodies, but using 518 specimens no correlation could be found.

Association between Pernicious Anaemia and Rheumatoid Arthritis: a Serological Study.

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We have attempted a study of a possible association between rheumatoid arthritis and pernicious anaemia by screening 99 patients with pernicious anaemia (40 men, average age 65.2 years; 59 women, average age 66.2 years) for rheumatoid factor and 135 latex fixation seropositive patients with rheumatoid arthritis (55 men, average age 52.7 years; 80 women, average age 49.3 years) for intrinsic factor antibody. Control sera from 172 subjects (87 men, average age 59.7 years; 95 women, average age 53.8 years) not known to be suffering from pernicious anaemia, rheumatoid arthritis, thyroid disease, or diabetes mellitus were tested for both rheumatoid factor and intrinsic antibody. The latter was detected by a modified charcoal adsorption technique and rheumatoid factor by latex fixation (Rheuma-Wellcotest).

Intrinsic factor antibody was not found in any of the 135 latex fixation-positive rheumatoid sera or 182 control sera, whereas 51/99 pernicious anaemia sera were

intrinsic factor antibody positive. Of the 9 patients with pernicious anaemia five had evidence of clinical rheumatoid arthritis and 11 (five men, six women) had rheumatoid factor in the serum. Seven of 18 control sera were latex fixation positive (four men, three women); a comparison with the pernicious anaemia group showed a significantly greater incidence of rheumatoid factor in the latter (χ^2 5.64, P 0.025-0.010). On excluding all subjects below the age of 50 from the study, the incidence of rheumatoid factor was 11/94 in patients with pernicious anaemia (five men, six women) and five/115 controls (two/63 men, three/52 women). On comparison, again there was a significantly higher incidence of rheumatoid factor in the patients with pernicious anaemia (χ^2 3.94, P 0.05-0.02).

Within the pernicious anaemia group the incidence of rheumatoid factor was not significantly greater among those with intrinsic factor antibody (seven/51) than those without the antibody (four/48) (χ^2 0.78, P 0.50-0.30).

Fatal Pneumonia of Infancy Associated with Group O Streptococci

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Group O streptococci may occasionally cause acute tonsillitis (Boissard and Wormald, 1950) and have been isolated from the blood of an adult with pneumonia (Duma, Weinberg, Medrek, and Kunz, 1969). Recorded here is an isolation from a 3-month-old baby. The child was well the night before death, but was heard gurgling at 6.45 am and found dead at 9.20 am.

At necropsy, seven hours later, the infant appeared well nourished and of appropriate size for its age. Appearance suggested the child had died lying on its right side. The larynx, trachea, and bronchi contained fine froth. Both lungs were mottled by slight patchy collapse and histology showed marked oedema and patchy, but heavy, infiltration of the alveolar sacs by mononuclear cells. Scanty cocci were seen in some sections. There was no evidence of aspiration of vomit.

Smears from lung parenchyma showed moderate numbers of pus cells but no organisms. A moderate and pure growth of beta-haemolytic streptococci was cultured.

The bacteria showed characteristic colonies and biochemical reactions.

Haemolysis of blood agar was greatly decreased by anaerobiosis. Growth in glucose broth was gelatinous with organisms in long chains. The group polysaccharide was destroyed by formamide but not by acid extraction. The strain was sensitive to penicillin, erythromycin, tetracycline, and trimethoprim with sulphamethoxazole, but resistant to streptomycin and bacitracin.

The streptococci were possibly secondary opportunist pathogens; it is unlikely that they reached the lungs by mechanical interference, or as a result of postmortem change, as no resuscitation was attempted and the necropsy was performed soon after death.

References

- Boissard, J. M., and Wormald, P. J. (1950). *J. Path. Bact.*, 62, 37.
Duma, R. J., Weinberg, A. N., Medrek, T. F., and Kunz, L. J. (1969). *Medicine (Baltimore)*, 48, 87.

Value of prolonged Incubation of Selenite for the Isolation of Salmonellae from Faeces

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When investigating the carrier state of children involved in an epidemic of salmonellosis, the faeces of several children failed to grow salmonellae from the subculture made on deoxycholate citrate agar after one day's incubation in selenite, but salmonellae were isolated from some of these selenite specimens incubated for a further four days before they were subcultured. Of the isolations 7.5% were only obtained by the prolonged incubation in selenite.

When this improvement in the isolation rate was appreciated the same technique was adopted for the isolation of salmonellae from routine specimens. The number of salmonellae identified in these specimens has been relatively small but the proportion only isolated by five days' selenite incubation would appear to be about the same as that from the clearance specimens of children who were carriers.

Carcinomas of the Ampulla of Vater and the Duodenum

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Thirty-two cases of carcinoma of the

ampulla of Vater and second part of the duodenum have been classified on the basis of their morphology and the results correlated with the clinical histories of the patients.

Two types of tumour were discernible. Ten tumours were polypoid papillary adenocarcinomas arising at the ampulla. Nineteen were adenocarcinomas without a papillary pattern, of which 15 were ampullary and four were duodenal in origin. The three remaining tumours were ampullary but were of mixed histological pattern.

Polypoid lesions in the ampullary region were associated with jaundice which was often intermittent; they were only slightly invasive and the patients came to operation rapidly. The non-papillary tumours were more invasive and more often involved the lymph nodes. They were often associated with pain, were frequently misdiagnosed, and patients only came to laparotomy after a long interval. The duodenal tumours caused vomiting of pyloric type without jaundice. Because of the varying forms of management by different surgeons the data do not provide a clear-cut difference in the survival of the two groups of patients but it is suggested that this pathological classification has clinical relevance and may have prognostic importance.

Ankylosis of the Stapedio-Vestibular Joint

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This joint develops in cartilage and is unique in shape and size. It is a symphysis composed of elastin fibres and cartilage. Age changes may include osteophytes. Adhesions following chronic middle ear infections may leave the joint space unaffected but preventing mobility. 'Otosclerosis' is apparently a progressive ankylosis, probably inherited as a dominant. A small area of fixation is enough to cause deafness. The peak age of onset is the third decade. The sex-ratio is 1 to 1, but women are more severely affected. Growth in the footplate of the stapes may increase the weight of the bone by 100%. Histopathology of the joint space includes calcification of fibres and cartilage and ossification. The operation specimen shows reactive bone, containing large resorption spaces. These may contain osteoblasts and cells with more primitive features, including the ability to divide, and multicellular osteoclasts. There is plentiful ground substances, which may be

basophilic as may the bone. These are the features of a very active lesion. Inactive lesions may contain large spaces in which are somewhat featureless cells, possibly fibrocytes; the bone is reactive in collagen pattern, but the appearance in polarized light is partly obscured, and the bone is weakly eosinophilic, with few cells. No time relationship exists invariably, except that inactive is presumed to follow active lesions: very active lesions indeed may be present many years after the onset of the disease. Cement lines are not a feature of the lesion. Electron microscopy suggests the presence of chondrocytes and histiocytes in some of the resorption spaces.

Harness: Its Implications for Laboratory Design

D. K. GRAY (*Department of Health and Social Security*)

Harness is the code name given to a programme for rationalization of NHS hospital planning and design. The name is derived by analogy with the electrical harness used in motor car design. In the hospital design context it represents a multi-purpose street system to which standard (Harness) hospital departments may be attached in a variety of configurations.

Within the Harness concept of hospital planning the street system is adaptable to the majority of site configurations and is thus itself potentially unique to any given situation. The Harness design departments are, however, standardized, albeit in a range of sizes to suit district general hospitals of between 750 and 1200 beds.

Harness does not imply standardized whole hospitals since a wide range of permutations of departmental sizes and departmental relationships is provided for, thus making the total system adaptable to a variety of local requirements.

The Harness concept, at least in its mark I form—hopefully there will be mark IA, IB etc versions later—requires that all hospital departments be accommodated in multiples of 50 feet squares of space arranged in a chequer board fashion, alternate squares being courtyards to provide natural light and ventilation.

The Harness design system recognizes what is frequently unacknowledged in building design, namely that space envelopes are in large measure predetermined by architectural form, and that facility planners must adjust to structural