The Association of Clinical Pathologists:
70th general meeting

The 70th general meeting was held at the Royal Victoria Hospital and Queen's University, Belfast, from 4 to 6 April 1963. The meeting included a symposium on cardiac disease, which was composed of invited papers on cardiac disease and the laboratory, cardiac surgery and extracorporeal circulation, and problems of ischaemic heart disease. The symposium will be published in a future issue of the Journal. Summaries of the other papers follow.

**BLOOD GROUPS AND DIABETES MELLITUS**

A. L. MACAFEE (Belfast) The blood groups were examined in patients with diabetes mellitus attending the Metabolic Unit, Royal Victoria Hospital, Belfast. The ABO blood group controls were drawn from 11,327 blood donors, whilst control data for the MN blood group and secretor status were drawn from antenatal patients and hospital staff. The patients and controls were drawn from the same population.

Eight hundred and sixty-five patients with diabetes mellitus showed ABO frequencies closely similar to those expected from the controls. Four hundred and thirty-five patients with diabetes mellitus showed MN blood group frequencies very closely similar to those expected from the controls. Six hundred and sixteen patients with diabetes mellitus showed frequencies of secretion and non-secretion of the ABH(O) substances in the saliva closely similar to those expected from the controls.

**KARYOMEGALY OF THE FOETOAL ADRENAL CORTEX**

H. G. KOHLER (Birmingham) Karyomegaly (or cytomegaly) of the foetal cortex is not an uncommon post-mortem finding in stillbirths and neonates, provided that the adrenal glands are sectioned routinely. Neither the history nor the naked-eye appearance allow an anticipation of the lesion.

The microscopic picture as demonstrated is very striking, with a varying proportion of cells larger than normal and with nuclei not only increased in size but also bizarrely shaped and hyperchromatic. No mitotic figures are seen. Eosinophilic inclusions, both cytoplasmic and intranuclear, are found occasionally. The lesion does not commonly progress to necrosis.

Pictures intermediate between the fully developed lesion and the supposed normal appearance occur frequently and make assessment of the incidence, even in necropsy material, very difficult: it is estimated to be of the order of 1%. Very little has been written on this subject and general textbooks of pathology do not mention it.

The condition has nothing to do with cytomegalic inclusion disease, which is caused by a well-defined virus. The name 'cytomegaly' is apt to lead to confusion; 'Karyomegaly' is deemed to be preferable.

It has been suggested that some other virus infection is responsible, but this has not been proven, nor any other proposed explanation, such as exaggerated or abnormal physiological involution, neoplasia, tissue dysplasia, or 'microscopic malformation'.

**BENIGN FIBRO-OSSEOUS LESIONS OF THE PARANASAL SINUSES**

D. A. OSBORN (London) Thirty-four selected lesions in this region were studied. The original diagnoses were reviewed after more detailed consideration of clinical data. In three cases, inadequate information precluded a final diagnosis but in the remainder a more definite conclusion was possible.

In seven cases the histological picture was ultimately interpreted as being that of reactive change, and the study of these cases emphasized not only the greatly varying picture but also the resemblance to more specific lesions such as osteoma.

Of three cases of Paget's disease, two were monostotic and one was polyostotic. All showed some active involvement of the maxilla.

Thirteen osteomas comprised the largest single group and were mainly in the frontal sinus. A noteworthy feature was the histological resemblance to reactive change and occasionally to fibrous dysplasia. Distinction from the latter may be aided by the use of polarizing filters which assist in the identification of woven bone.

Of five cases of fibrous dysplasia, one was of interest on account of the advanced age of the patient and the involvement of the frontal sinus. The varied picture of dysplasia was well illustrated in this group, including both 'ossifying fibroma' and a predominantly fibrous lesion.

Two cases of giant cell reparative granuloma involved the maxillary region in young subjects, and one probable osteoid-osteoma was encountered in the frontal region.

This study emphasizes the vital importance of supplementary information in histological interpretation. The true nature of osteomas of this region may well be an open question.
DIAGNOSIS OF ASEPIC MENINGITIS

J. H. CONNOLLY (Belfast) The aseptic meningitis syndrome refers to those cases of acute non-paralytic neurological illness in which the patients have pleocytoses of the cerebrospinal fluid which is sterile bacteriologically. A sterile fluid may be associated with tuberculous meningitis, middle ear or sinus infection, brain abscess, apical pneumonia or partially treated bacterial meningitis, syphilis, or leptospiral infection, and these cases were excluded from the survey. Fifty-two per cent of all cases of proven meningitis had the aseptic meningitis syndrome.

From data obtained over the period 1958-62 from 285 cases of aseptic meningitis, the syndrome predominantly affected male children under 10 years old during the summer season. The cerebrospinal fluid findings on admission to hospital showed a normal or moderately increased protein level, increased cell count, and a normal sugar content. The blood white cell count was usually within normal limits. Serial samples of cerebrospinal fluid showed that 30 days elapsed on average before the fluid returned to normal values. During 1962, 72% of cases were shown to have a viral aetiology. Of the diagnosed cases between 1958 and 1962, 42% were caused by mumps virus, and half of these cases were without salivary gland involvement. The enteroviruses accounted for 34% of cases, which included 19% Coxsackie B viruses, 7% polioviruses, 5% ECHO viruses, and 3% Coxsackie A viruses. During 1962 three cases were caused by herpes simplex virus although they were without clinical signs of herpetic infection, and three cases of group B arbor virus infection were diagnosed serologically.

MALABSORPTION SYNDROME IN RETICULOSIS

D. EAKINS (Belfast) Six cases of steatorrhoea associated with malignant reticulosis were examined. Necropsies were performed in four, while in the other two surgical specimens of the tumour were submitted.

The history of steatorrhoea was short in five (range 4-68 months) while in the sixth it began in adolescence, continuing till death at 59 years. There were many features fully compatible with a diagnosis of idiopathic steatorrhoea and in four of them villous atrophy of the intestinal mucosa was present.

The main tumour mass in all of the cases was intra-abdominal, involving either the small bowel or related lymph nodes, and in all cases the growth was a reticulum cell sarcoma.

It has been suggested that villous atrophy occurring in patients with malignant reticulosis and steatorrhoea indicates that the reticulosis may be a complication of idiopathic steatorrhoea or coeliac disease (Gough, Read, and Naish, 1962). Villous atrophy has, however, been described in secondary steatorrhoea associated with hookworm infestation, intestinal diverticulosis, and Neomycin therapy. The short duration of steatorrhoea in three of these cases suggests that the villous atrophy may, in fact, be secondary to the reticulosis.

In five of the cases described, it was not possible to establish which condition was primary, but in one at least, the 40-year history of steatorrhoea definitely precluded the presence of tumour throughout this period.

REFERENCE


TRANSMISSION OF 14C-NORADRENALINE ACROSS THE HUMAN PLACENTA

M. Sandler (London) After the injection of 5 μg 14C-noradrenaline into five pregnant human subjects in labour, appreciable amounts crossed the placenta to appear in blood flowing to the foetus. During passage of this blood through the foetus, almost all labelled noradrenaline disappeared from the circulation, presumably by a combination of tissue binding and metabolic change. Because of possible risk to a normal foetus, experiments were confined to clinical circumstances incompatible with foetal survival, such as anencephalus and hydrocephalus. The possible role of maternal noradrenaline in the production of foetal bradycardia was discussed.

THE TREATMENT OF HEREDITARY HAEMORRHAGIC TELANGIECTASIA WITH OESTROGENS

E. K. Blackburn, G. Meachim, and A. Young (Sheffield) The efficiency of oestrogens in the short-term and long-term control of epistaxis in hereditary haemorrhagic telangiectasia was described. Two illustrative case records were given. A middle-aged man had been so treated for eight years, during the last five of which doses of 12 mg. chlorotrianisene every 10 days, and more recently for five months, every seven days, were effective. His sister had been treated with similar success for six and a half years. Dosage of the oestrogens after the initial period of treatment was much smaller than that previously used. Some details of these patients are to be published elsewhere (Blackburn, 1963).

Problems associated with prolonged oestrogen therapy were discussed.

Histological studies of mucous membrane from the region of the inferior turbinate cast some doubt on the theory that oestrogens, by causing change of the normal columnar epithelium to a squamous one, protect the telangiectases from trauma and hence diminish the bleeding therefrom.

REFERENCE


INCIDENCE OF LEAD POISONING AMONGST BADGE ENAMELLERS

J. N. M. Chalmers, T. P. Whitehead, and P. M. O. Massey (Birmingham) A young woman whose occupation was that of a badge enameller was admitted to hospital and found to have lead poisoning. In her occupation, she had

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developed the objectionable habit of ‘pointing’, in her mouth, the spatula which she used to apply enamel to small metal pressings. This enamel ‘frit’ contained about 42% lead and, although insoluble in water, it was shown to be partially soluble in 0.1 N HCl, 10 mg. of the white powder yielding about 100 μg. of lead in solution after incubation at 37°C. for one hour.

An investigation was carried out to study the frequency of this ‘mouth pointing’ habit in the trade in Birmingham, and 223 women and girls were questioned and subjected to haematological investigation, and urine samples were tested for increased porphyrin excretion. Eighteen per cent of the workers admitted to ‘mouth pointing’ regularly with the spatula or pen they used in their work. Another 40% said they did it occasionally or rarely. A further three cases of notifiable lead poisoning were found as well as several instances of women showing evidence compatible with increased lead absorption without symptoms. Thirty-five per cent of the group who admitted to regular ‘mouth pointing’ had haemoglobin values under 12 g./100 ml. and 20% of them showed excess urinary porphyrins. Of this group, 17.5% showed stippling of the red cells in varying degree. Among those who said they never put the spatula or pen in their mouths, only 10.5% had haemoglobin values under 12 g./100 ml. and none showed excess urinary porphyrins.

The four girls admitted to hospital were treated with oral penicillamine in daily doses of 900 mg. This increased urinary lead excretion up to 2,500 μg. per day and was followed by general clinical and haematological improvement.

Reference to this type of risk among badge enamellers is mentioned in the Annual Report of the Chief Inspector of Factories and Workshops (1902) but no special precautions were considered necessary at that time. The working conditions in the factories visited appeared good, any risk of lead poisoning primarily coming from the habit of ‘mouth pointing’ of the implements used.

THE DIAGNOSTIC VALUE OF SERUM HAPTOGLOBIN

N. K. SHINTON, R. W. RICHARDSON, AND J. D. F. WILLIAMS (Coventry) had estimated quantitatively the level of serum haptoglobin in 116 normal subjects and in 120 patients with various types of anaemia. They recommended for use in a busy clinical laboratory a method in which the peroxidase activity of a methaemoglobin-haptoglobin complex is measured colorimetrically, the result being expressed as methaemoglobin-binding capacity. They found the normal range to be from 40 to 220 mg./100 ml. (mean 112 mg./100 ml.). There was an increase in serum haptoglobin with age. In 18 cases of haemolytic anaemia of various types and in 13 cases of megaloblastic anaemia the levels varied from 0 to 90 mg./100 ml., in both groups the levels having a direct correlation with the haemoglobin concentration at the time the estimation was made. In four patients, in whom anaemia was due to extravasation of blood into the tissues, there was no detectable haptoglobin in the serum. Raised levels of over 250 mg./100 ml. were found in patients whose anaemia was secondary to Hodgkin’s disease, rheumatoid arthritis, or hepatoma. Comparison of serum haptoglobin with red cell survival, measured by the radioactive 51Cr technique, showed that in some cases with normal or raised levels there was a diminution in the red cell life span. It was therefore concluded that normal or raised levels of serum haptoglobin are of little diagnostic importance but that subnormal levels are a strong indication of haemoglobinemia, either as a result of increased red cell turnover or of absorption of blood which has extravasated into the tissues.