The Association of Clinical Pathologists: 88th general meeting

The 88th general meeting of the Association of Clinical Pathologists was held at the University of Sheffield on 13 and 14 April 1972. Abstracts of the scientific communications and of some of the papers given at the symposium follow. There was a guest lecture by Dr A. Usher of the Department of Forensic Pathology, University of Sheffield, who took as his title, 'Mainly murder'. There were two symposia, one on brucellosis, the other on myelomatosis, and some of these papers are also included in the form of abstracts.

Trimethoprim Levels in Cerebrospinal Fluid

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Although the combination of trimethoprim sulphamethoxazole has been used for treating meningitis (Morazaria, Walton, and Pickering, 1969) information about trimethoprim levels in cerebrospinal fluid (CSF) is scanty.

Preliminary results are presented in which cerebrospinal fluid was obtained by lumbar puncture at routine diagnostic air encephalography in patients selected for this procedure on clinical grounds. All patients were between the ages of 12 and 70 years, not pregnant, and not receiving treatment with thiazide diuretics or antibiotics. The trimethoprim was injected intravenously during one and a half minutes, and was administered within 60 minutes of the start of the procedure or at least 90 minutes before the lumbar puncture was performed. A third group of patients received oral Cotrimoxazole which was given the night before, and in some cases on the same morning also. Samples of cerebrospinal fluid were obtained within a space of from 15 to 30 minutes at the start and during the radiological investigation during which time all patients were anaesthetized.

Microbiological assay was performed using a sensitive organism (*Bacillus pumilus* strain CN 607) which was incorporated in the middle layer of a three-layered plate of nutrient agar containing wells into which standard solutions of trimethoprim (prepared in the same type of body fluid as that being assayed) and test fluids were placed; zones of inhibition

thus produced were compared graphically (Bushby and Hitchings, 1968). The results showed that a single intravenous dose of trimethoprim of 3.0 mg/kg body weight gave levels in cerebrospinal fluid within the first hour of 0.4 µg/ml or higher, and 0.5 µg/ml or higher in the second hour. Results following oral administration are presented on blood and cerebrospinal fluid obtained at intervals of between four and 18 hours after administration.

Within the limitations of the clinical procedure, these results suggest that trimethoprim levels are attainable which, in the presence of sulphonamides, are bactericidal for the majority of organisms likely to be found in cerebrospinal fluid.

References

- Bushby, S. R. M., and Hitchings, G. H. (1969). *Brit. J. Pharmacol.*, 33, 72-90.
Morzaria, R. N., Walton, I. G., and Pickering, D. (1969). *Brit. med. J.*, 2, 511-512.

Acquired Toxoplasmosis and its Laboratory Diagnosis

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Most acquired toxoplasmosis in man presents as an acute or subacute lymphadenopathy. It occurs most frequently in children, less frequently in 'teenagers', and still less frequently in adults. Any node, group of nodes, or groups of nodes may be involved. Those most commonly affected are the cervical ones.

Hodgkin's disease is often suspected, particularly when resolution of an enlarged node is delayed. Sometimes mesenteric lymphadenopathy is found at laparotomy for a suspected abdominal emergency, or a lump removed from the upper and outer quadrant of the breast proves to be an enlarged lymph node.

Occasionally, in addition to lymph nodes, another system is involved. In such patients the clinical picture is usually almost entirely due to the disease process in the other organ—encephalitis, pneumonitis, myocarditis, myositis, hepatitis, and bone marrow dysfunction. Often the first clue indicating toxoplasmosis is the histological appearance of the lymph nodes.

Toxoplasmic uveitis is a chronic manifestation and is usually confined to the choroid and retina. While it is nearly always the result of congenital infection it is sometimes due to acquired infection. Then the lesions may not be confined to the posterior tract; they may be in the anterior or in both.

A clinical diagnosis can be confirmed by any of the many antibody tests, particularly if a rising titre can be shown, or by isolating the parasite by mouse inoculation from part of a lymph node biopsy, or by finding the typical reactive changes on histological examination of the remainder of the biopsy, or by a combination of these methods.

Antibiotic-producing Commensals in Surgical Wounds and Dermatological Lesions

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Although antagonistic activities among microorganisms have been studied for over 100 years since Lister's first observations in 1871, their implications in the ecology of the human body have been strangely ignored. A notable area of this neglect is the skin whose normal commensals frequently produce antibiotics active against most Gram-positive bacteria as well as some Gram-negative species (Selwyn and Ellis, 1972).

In a preliminary bacteriological survey of various normal skin sites in 250 people, commensal *Micrococcaceae* strains produced moderate to wide inhibition zones against indicator organisms in 56 cases (22.4%). Yet the antagonistic organisms were actually predominant in only 22 cases. This suggested that such organisms possess little or no survival advantage in a healthy skin habitat. The situation seems to be different, however, if the skin is damaged or diseased.

Three series of patients were investigated: a dermatological group of 233 from whose lesions serial cultures of representative strains had been stored (Selwyn, 1965); a group of 90 surgical patients from whom pre- and post-operative cultures were obtained; and finally a series of 36 dermatological patients in whom successive cultures were examined from the nose, perineum, and normal skin, as well as from lesions receiving topical steroid treatment.

In the two dermatological series pre-existing or hospital acquired Gram-positive pathogens were rarely found in lesions containing antibiotic-producing commensals on admission. Similarly, the presence of antibiotic producers on the skin of surgical patients appeared to protect operation wounds against colonization by exogenous organisms. Evidently commensals that produce antibiotics derive full ecological advantage only