BRITISH PAEDIATRIC ASSOCIATION

PROCEEDINGS OF THE TWELFTH ANNUAL GENERAL MEETING

The Twelfth Annual General Meeting was held at the Old England Lake Hotel, Windermere, on Friday and Saturday, May 19 and 20, 1939.

FIRST SESSION (MAY 19, 10.0 A.M.)

Business Proceedings: The President, Dr. H. C. Cameron (London), was in the Chair, and there were present 55 members and 18 guests.

The Minutes of the last Meeting were read and approved.

The following Officers, and Honorary, Corresponding and Ordinary Members were elected:

President: 1939-40, Professor Charles McNeil (Edinburgh).
Secretary: Dr. A. G. Maitland-Jones (re-elected).
Treasurer: Dr. Donald Paterson (re-elected).
Representative for London: Dr. W. G. Wylie, in place of Dr. W. P. H. Sheldon.
Representative for Ireland: Dr. W. R. F. Collis (Dublin), in place of Dr. Robert Marshall.
Honorary Members: Dr. J. Wilkie Scott (Past President), Dr. William Brown and Dr. R. C. Jewesbury.

Corresponding Members: Prof. Dr. Heinrich Finkelstein (Germany) and Dr. P. F. Armand-Delille (France).

Ordinary Member: Dr. R. E. Smith (Rugby).

The Treasurer's Report was received and adopted. It was decided to subscribe 10 guineas to the Society for the Protection of Science and Learning and 5 guineas to the Royal Medical Benevolent Fund.

The place of meeting for next year was then discussed.

Scientific Proceedings:

1. 'The results of Therapy in Childhood with Sulphanilamide and similar substances'

Professor Noah Morris (Glasgow): The first sulphonamide to be introduced as a chemotherapeutic agent was sulphonamido-chrysoidine, commonly known in this country as prontosil rubrum. It arrived without any logical line of previous research, since the therapeutic properties of the sulphonamides had been quite unsuspected. The discovery that in the body prontosil was split up, yielding sulphanilamide, has led to a greater understanding of the action of the sulphonamides and to attempts to synthesize more powerful preparations. The sulphonamide group appears to be the essential fraction necessary for the chemotherapeutic activity of prontosil and its successors. Replacement of one H of this group has been attempted with the formation of two products that have attracted much attention, viz. sulfapyridine (M. & B. 693) and dimethylsulphanilamide (uleron). The sulphonamides appear to have little action on either the cellular or humoral defence mechanisms of the host.

At the moment there is evidence to indicate that the chief effect is to make conditions unfavourable for the invading organisms and so render them more susceptible to the defences of the host. This is probably achieved by preventing the organisms breaking down protein, so that unless nitrogenous foodstuff is present in a simpler form they are unable to obtain nitrogen. Possibly the bacteriostatic effect is due to the inactivation of some bacterial enzyme necessary for the utilization of food material. Sulphanilamide is readily absorbed and distributed through the body fluids. The concentration in these fluids is dependent upon dosage, rate and completeness of absorption, distribution ratio in the body and rate of excretion, which varies with renal efficiency and urinary volume. The best method of administration is by mouth, the parenteral routes being limited to patients in whom vomiting is a marked symptom.

Dr. Alan Moncrieff (London) spoke of the use of the sulphonamide preparations in streptococcal infections. He mentioned first the effects in tonsillitis, cervical adenitis and otitis media, for which good results were reported by most workers. Success was also claimed
in haemolytic streptococcal infections causing septicemia, meningitis, erysipelas and impetigo, whilst in measles and pertussis evidence had been published strongly suggesting that septic complications were reduced by the use of sulphonamide drugs. As regards which preparation should be used the speaker suggested that in the absence of bacteriological certainty as to the presence of the haemolytic streptococcus 'M. & B. 693' covered a wider field than the original sulphanilamide group. Toxic effects were mostly absent in children. There was less agreement in the literature regarding the value of sulphonamide in certain other manifestations of streptococcal infection. In scarlet fever some workers held that septic complications were diminished, but others failed to confirm this. In rheumatic fever the evidence was emphatically against the use of sulphonamide in treatment, although some value in prophylaxis was suggested. Since toxic effects in rheumatic fever appeared to be increased it was suggested that similar harm might be done in nephritis. In view of these findings the possible dangers of the indiscriminate administration of sulphonamide in acute tonsillitis were briefly discussed.

PROFESSOR G. B. FLEMING (Glasgow): The results of treatment of meningococcal meningitis and pyogenic infection of the urinary tract were discussed. It was shown that in thirty consecutive cases treated with serum, the mortality rate was 66 per cent. whilst in twenty-one cases treated with sulphonamide (prontosil or M. & B. 693) it was 9.5 per cent. In the nineteen children who recovered there were no sequelae. Oral administration was usually effective, though in the early stages, when there was vomiting, intramuscular or intrathecal injections were thought to be of benefit. In view of the above results and those obtained by others, this form of treatment seems to be superior to any other. The results of treatment of pyogenic infection of the urinary tract with sulphanilamide were not so conclusive. Where there was no organic lesion the urine was sterilized in 73 per cent. of the cases, whilst in cases with a proved organic lesion it was sterilized in 43 per cent. These results are superior to those obtained by treatment with alkali and probably better than those treated with hexamine or mandelic acid. The drug acts best in B. coli infection. One of the advantages of treatment with sulphanilamide is that it acts in an alkaline medium and can be given in the acute stages of the disease.

DR. W. F. GAISFORD (Birmingham): The difficulty of assessing the value of a new treatment for the pneumonias of childhood is great, because the mortality in lobar pneumonia is so low and in bronchopneumonia so variable. In 1936 the case mortality for lobar pneumonia under the age of fifteen at Dudley Road Hospital, Birmingham, was 3.8 per cent., and in 1937 less than 1 per cent. For bronchopneumonia the figures were 35 per cent. and 17 per cent. Since the introduction of "693" as a routine treatment 154 cases of lobar pneumonia and 178 of bronchopneumonia have been treated. There have been no deaths from lobar pneumonia and 15 from bronchopneumonia (8.4 per cent.). In the latter cases 93 per cent. were under the age of two years. As regards lobar pneumonia the chief feature has been the earlier fall in temperature. In 50 per cent. of the cases the fall occurred within twenty-four hours of admission and in 66 per cent. within forty-eight hours—as compared with 15.7 per cent. and 40.4 per cent. in the previous year—although the "693" treated cases were admitted on an average 1.75 days earlier than the 1937 cases. In the bronchopneumonias 52 per cent. fell within forty-eight hours. Clinical improvement occurred earlier, but no change was found in the rate of lung resolution. The incidence of empyema in the lobar pneumonias showed a slight increase, but the figures are too small yet to be of significance. Clear effusions, representing aborted empyemas, have certainly increased, and, although usually absorbed spontaneously, delayed convalescence. No serious toxic manifestations were encountered. The cause of failure in the bronchopneumonia cases was probably the mixed nature of the infecting organisms. In bronchopneumonia complicating whooping cough "693" had no constant effect. In severe cases parenteral administration of the sodium salt of "693" proved successful, but will be much less often called for than in adults, who so often vomit after the oral dosage. As regards dosage the essential part is to 'saturate' the system as quickly as possible, giving large doses for the first eight or twelve hours. The accompanying table shows the suggested maximum doses for infants and young children.

**TABLE OF MAXIMUM DOSAGE**

Figures refer to tablets, not grammes. Each tablet = 1 gramme.

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<thead>
<tr>
<th>Weight (lb)</th>
<th>Initial Dose</th>
<th>Total in First 12 Hours</th>
<th>Subsequent Dosage</th>
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<tr>
<td></td>
<td></td>
<td>Given Hourly, or 2, 3, 4, or 6 Hourly</td>
<td>4, or 6 Hourly</td>
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<tr>
<td>5</td>
<td>1</td>
<td>1</td>
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<tr>
<td>10</td>
<td>1</td>
<td>1</td>
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<tr>
<td>15</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Age (yr)</td>
<td></td>
<td>4, or 6 Hourly</td>
<td>4, or 6 Hourly</td>
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<td>2</td>
<td>2</td>
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<td>3</td>
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<td>6</td>
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<td>5</td>
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<td>8</td>
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The results to date, while not yet conclusive, are sufficiently encouraging to render continued use of '693' in the pneumonias of infancy and childhood justified.

2. Films were shown:
   Dr. G. Bray (London): 'The cutaneous manifestations of allergy.'
   Dr. R. Collins (Dublin): 'Direct transfusion in infants, Soresi method.'

SECOND SESSION (MAY 20, 10.0 A.M.)

3. Professor A. Wallgren (Gothenburg): 'Renal lesions in erythema nodosum (see page 271).

4. Professor S. van Creveld (Amsterdam): 'Coronary thrombosis in young infants.' Two cases of coronary thrombosis in babies of seven and nine weeks were studied with Dr. F. H. ter Poorten. They gave rise to the questions: in how far does there exist a relation between a disease or an intoxication or a constitutional anomaly of the mother, and the occurrence of these lesions? In these various cases changes play a rôle in the explanation of disturbances in respiration and circulation and in cases of sudden death occurring immediately or shortly after birth. In one case the mother for her bronchial asthma had during the whole pregnancy constantly used a prescription containing caffein and lobeline. In the other case the mother also came from an allergic family and had ascaris-eggs in the stool. The first baby during four weeks before death suffered from attacks of dyspnoea; clinical observation and the electrocardiogram pointed to the existence of myocarditis. The other baby died after a short illness consisting of attacks of cyanosis. In addition to the changes in the coronary vessels particular alterations were found in the kidneys: swelling of the capillary endothelium of glomeruli with local necrosis; formation of peculiar crescents by the outer layer of Bowman's capsule. The hypothesis is assumed that the changes in the vessels are caused by the allergic reaction of drugs like caffein with a localized effect or by the action of other toxins with an analogous reaction. Some experiments in favour of this hypothesis were mentioned.

5. Dr. A. G. Watkins (Cardiff): 'Report on a recent polio-myelitis epidemic.' He reported an epidemic of thirty-three cases of polio-myelitis that had occurred in Cardiff from October to December 1938. The age incidence varied from six months to fifteen years, with twenty-three cases under five years old and eight cases under two. The mortality was twelve per cent. No two cases occurred in the same household, but the main incidence was in adjacent wards in the city. No cause of the epidemic had been found. Analysis of the signs and symptoms showed vomiting, fever, headache and limb pains to be the most frequent early symptoms, and four cases had scarlatiform rash. The various resultant paralyses were detailed and nine cases had a transient Babinski response which were not followed by any permanent paralysis. Three cases had albuminuria and one had haematuria. Of thirty cases examined twelve had normal C.S.F., an increase in protein in twelve and an increased cell count in sixteen. Slides were shown of the nervous lesion in a fatal case, also of a liver showing toxic changes. Dr. Watkins expressed the view that in spite of experimental evidence, clinical manifestations such as albuminuria, rashes and toxic liver changes suggested a general systemic infection by the virus and not necessarily a pure neurotropic one.

6. Dr. K. D. Wilkinson (Birmingham): 'Salicylates and the myocardium.' Salicylates have been recognized for many years as specific remedies for the painful swollen joints, fever, and sweating of acute rheumatism, but there has been a tendency to deny that the myocardial damage which results from the rheumatic process can be modified by salicylates. Whatever may be the causal factor of acute rheumatism, there can be no doubt that the pathological process in the joints, pleura, arterial walls, and myocardium is of uniform type. A case of severe acute rheumatism with many swollen painful joints, fever, pericarditis, and evidence of myocardial damage—heart block—was treated with large doses of sodium salicylate (10 grains an hour) with twice as much sodium bicarbonate. Within three days the swelling and pain in the joints disappeared, the fever abated, and within ten days the pericarditis subsided. Within one month the obvious myocardial defects had cleared up and conduction was restored to normal. Daily electrocardiograms showed the gradual restoration.

7. Dr. Stanley Graham (Glasgow). 'Epidermic enteritis of the newborn with unusual features.' The dangers of infection during the neo-natal period were commented upon. In 1938 an epidemic of enteritis occurred in a nursery for newborn infants at a large maternity hospital in Glasgow. There were eighteen cases in all, of whom ten died. Post-mortem examination was carried out in all the fatal cases, and the most outstanding feature was the high incidence of meningitis, no less than eight of the fatal cases showing a dirty, foul-smelling, purulent exudate over the meninges. In two cases there was a peritonitis and in two an acute inflammation of the gall bladder. Bacillus enteritidis (Gaertner) was isolated from the stools in every case, and from the meninges, peritoneum, and gall bladder in the cases showing U
lesions in these areas. Such findings serve to illustrate the rapid invasion of the blood stream in cases of infection in the newborn infant. During 1938 there were 138 deaths out of 3000 live births in this Hospital. From autopsy records and other sources it was computed that of these deaths about 25 per cent. were associated with some infection.

8. Dr. N. B. Capon (Liverpool) : 'Observations on the paediatric section in the clinical reports of maternity hospitals.' After a reference to certain facts (e.g. infantile death-rate, neonatal death-rate, stillbirth-rate, etc.) given in the Annual Report of the Registrar-General for England and Wales, Dr. Capon suggested that a scheme might be drawn up for giving a standardized summary of the details recorded in the paediatric section of the medical reports of maternity hospitals, and of maternity departments in general hospitals. An arrangement of this sort would be complementary to the reports as they appear at present, and need not, therefore, interfere in any way with a hospital's present form of report. Paediatricians working with new-born babies would undoubtedly welcome the opportunity of having comparable statistics available, especially if these were made readily accessible by publication in books and journals in such series. Extracts from the Liverpool Maternity Hospital Medical Report were shown to illustrate some of the points raised.

9. Dr. R. E. Steen (Dublin) : 'Some observations on tuberculosis in childhood.' Dr. Steen restricted his remarks to pulmonary tuberculosis in childhood. He first mentioned some types of adult phthisis met with in the child, and then described two cases of acute broncho-pneumonic phthisis in which the diagnosis had been made by demonstrating tubercle bacilli after lung puncture. He next mentioned chronic ulcerative and chronic fibroid phthisis, laying stress on the rareness of these forms of phthisis under the age of ten. He showed a film of a child of four years in whom the radiologist had reported cavities at an apex, but the case suggested a resolving apical pneumonia, the Mantoux reaction was negative in strengths of 1/1000, 1/100 and 1/10, and a few weeks later a further x-ray showed that the condition had entirely disappeared. He next showed slides of a case of chronic ulcerative phthisis in an older child, showing the active manner of spread at this age, and therefore the chance of adhesions being absent, good collapse having been obtained with pneumothorax in spite of the lung being riddled with cavities. The next case, also of chronic ulcerative phthisis in an older child, was described because though there were cavities at both apices and plenty of tubercle bacilli in the sputum, the sedimentation rate was normal on two occasions, being 2 and 5 respectively. He also mentioned a case of acute miliary tuberculosis in which the sedimentation rate had been 10, and asked if there could be any analogy between this and the fact that in terminal states the temperature also could fall to a normal level without indicating an improvement in the patient's condition. He then described some cases of primary infection in childhood, most of them being from families in which another child had died of tuberculous meningitis. In two cases 'contact' had not been with a relative, but a friend suffering from phthisis and expectorating tubercle bacilli. He then showed a series of films which appeared to show the evolution of tuberculous infection in childhood in all its three stages of primary, secondary and tertiary infection.

10. Dr. R. S. Illingworth (London) (introduced by Dr. D. Paterson) : 'Acute focal and acute diffuse nephritis.' The criteria given by Volhard and Fahr for the distinction of focal from diffuse nephritis—the absence of oedema in the focal type, the absence of symptoms, of nitrogen retention, hypertension and oliguria, the occurrence of the nephritis at the height of the infection and the good prognosis, were mentioned and then applied singly and in combination to 301 cases of acute nephritis seen in the Hospital for Sick Children, Great Ormond Street, in the last eleven years. Taking oedema as the chief criterion, it was found that cases with oedema exhibited no difference in etiology, symptomatology, time interval between infection and nephritis, degree of nitrogen retention and prognosis from those without oedema. Cases satisfying two of the criteria for the diagnosis of focal nephritis—the absence both of oedema and of symptoms—were then discussed, and it was found that the majority of these showed nitrogen retention, and that on re-examination six years after the onset there was still evidence of renal damage. Five criteria were then applied in combination to the total of 301 cases, and it was found that only one case out of the entire series fulfilled these criteria. It was concluded that acute focal nephritis is not a clinical entity.