BRITISH PAEDIATRIC ASSOCIATION

PROCEEDINGS OF THE TWENTY-SECOND GENERAL MEETING

The twenty-second annual meeting of the British Paediatric Association was held at Windermere on April 18, 19, and 20, 1951.

Business Proceedings. The President, Professor Sir James Spence, was in the chair and the following members were present:


The Association had the honour of entertaining 24 paediatricians from Holland as well as 30 other guests from the British Isles.

The minutes of the last Annual General Meeting were approved.

Election of New Members. The following were elected by ballot to membership of the Association:

(a) Honorary Members
Dr. H. S. Banks
Dr. C. K. J. Hamilton
Sir James Spence
Dr. W. G. Wyllie

(b) Corresponding Members
Dr. James Gamble (Boston)
Prof. A. Goldbloom (Montreal)

(c) Ordinary Members
Dr. W. A. B. Campbell (Belfast)
Dr. S. Doxiadis (Sheffield)
Dr. R. Gordon (Sheffield)
Dr. J. Hart-Mercer (Newcastle-upon-Tyne)
Dr. R. A. Shanks (Glasgow)
Dr. R. M. Todd (Liverpool)
Mr. R. B. Zachary (Sheffield)

The Treasurer's Report was received and approved.

The Report of the Executive Committee was received and approved and is printed below.

Next Meeting. Suggestions were made to hold the 1952 meeting at Porthcawl or at Newcastle, County Down. It was agreed to leave this to the Executive Committee.

Discussion on Policy. It was suggested that time should be provided for discussions on matters of policy.

Report of the Executive Committee 1950-51

1. During the year the Association has sustained a heavy loss by the deaths of the following: Charles Box (honorary member), Herbert Morley Fletcher (original member and past-president), Leonard Gregory Parsons (original member and past-president), John Forbes Ward (original member), Kenneth Douglas Wilkinson (original member), A. Eckstein (Hamburg—corresponding member), L. Exchaux (Lausanne—corresponding member) and A. Lichtenstein (Stockholm—corresponding member).

2. The Association will wish to congratulate the President, Sir James Spence, on his well merited distinction; Dr. Harold Waller on being awarded the Dawson Williams Prize of the B.M.A.; and Dr. J. L. Henderson on his election to the James
Mackenzie Chair of Child Health at the University of St. Andrews.

3. The Executive Committee has met on three occasions since the last Annual General Meeting held in Windermere in April, 1950, and some account of the business transacted is summarized in this report.

4. Nursing of Sick Children. Representations to the General Nursing Council and to the Ministry of Health regarding the appointment of a paediatrician or a sick children's nurse to each area nurse-training committee have not been entirely successful, and members are urged to make sure that no attempt is made in any area to reduce the opportunities for the training of sick children's nurses.

5. Archives of Disease in Childhood. It was recommended to the Editorial Committee of the Archives that from January, 1951, Dr. W. W. Payne and Prof. A. G. Watkins should replace Dr. Helen Mackay and Prof. Sir James Spence. Dr. P. R. Evans, as senior editor, was co-opted to serve on the Executive Committee for a period of two years.

6. International Paediatric Congress. British paediatricians and others numbering between 40 and 50, many of them members of the Association, attended the Sixth International Paediatric Congress in Zurich in July, 1950. Altogether there were nearly 2,000 representatives from 36 different countries. Communications from British representatives appeared to be well received. A provisional constitution for the formation of an International Paediatric Association was approved for ratification at the next International Congress which is to be held in Havana in 1953. Each national association is asked to subscribe one Swiss franc for each member annually for the expenses of the International Association. The World Health Organization has officially recognized the I.P.A.

7. Training of Paediatric Consultants. A final report has been approved and will be printed in the Archives. Copies have been sent to the Royal College of Physicians, the General Medical Council, the Ministry of Health, and the Department of Health for Scotland.

8. Prematurity. The Joint Standing Committee on Prematurity of the R.C.O.G. and this Association has produced a memorandum on the care of premature babies in urban and rural areas which it is hoped to publish. Advice has also been given to the Ministry of Health on the preparation of a form for national use for a return of hospital statistics on premature infants. It has also instigated an investigation into retro-lental fibroplasia.

9. Mental Defect in Children Under Two Years. The members of the Child Psychology Sub-Committee prepared a report on this subject, which was approved by the Executive Committee and submitted to the National Association for Mental Health. It is proposed to produce a pamphlet on this subject suitable for paediatricians.

10. Height and Weight Survey. As has been announced in the press, an investigation of heights and weights of children, sponsored by a joint committee of this Association with the Ministries of Health and Education, is now in progress.

11. Other Activities. The Association was consulted by the Ministry of Health about the dosage of Vitamin D and a sub-committee reported to the Executive Committee that no change should be made. The Ministry of Education has asked for detailed replies to certain questions for its special committee on maladjusted children and a sub-committee has been appointed to prepare suitable evidence. The joint committee on convalescent homes (with the Invalid Children's Aid Association and the Institute of Almoners) decided to inform the Metropolitan Regional Hospital Boards that children under the age of two should only be sent to convalescent homes if adequate nursing and medical care were available. The sub-committee on tuberculosis is in touch with the Central Council for Health Education regarding the preparation of a pamphlet on prevention. The British Standards Institution continues to consult the Association on instruments and apparatus and suitable members continue to give valuable advice.

12. In accordance with the rules certain changes in the composition and officers of official standing sub-committees have been made by the Executive Committee and details of these changes will be incorporated in the next edition of the Association's booklet.

Scientific Communications

Prof. E. Gorter (Leiden). 'Familial Galactosaemia.' This interesting syndrome is characterized by an anomaly of galactose metabolism and signs of hepatic dysfunction.

Soon after birth a tendency to bleeding, failure to gain weight, frequent bouts of vomiting and diarrhoea, enlargement of liver and spleen, galactosaemia, hyperbilirubinaemia, albuminuria, and bilateral cataract develop.

We have observed three children in one family. The first died at 7 days, with haemorrhages. The second died at 5 weeks from liver cirrhosis and steatosis with thrombopenia and haemorrhages. The third child was born with haemolytic disease of the newborn, and showed no symptoms after exchange transfusion. The fourth also had haemolytic disease. In both cases it was due to an
A-O antagonism. From the eleventh day of life mellituria and liver dysfunction, gradually increasing in severity, were observed. The child died. The sugar in his urine was proved to be galactose.

It is difficult to decide whether the A-O antagonism or the galactosaemia was responsible for the steatosis and cirrhosis of the liver found at necropsy.

Recently we saw another case of galactosaemia. A premature baby developed on the seventh day severe haematemesis with thrombopenia (47,000 and 55,000 per c.m.m.), prolonged coagulation time and bleeding time, and normal prothrombin time. There was no blood group antagonism. These symptoms were followed by jaundice, enlargement of the liver and spleen, and by galactosaemia.

After withdrawal of all lactose from the diet on the tenth day the general condition improved and the galactosaemia disappeared, but the child died four days later. At necropsy the typical symptoms of the disease were found.

The most interesting family was observed by P. K. de Haas, of Goes (Walcheren). All the 10 children with the exception of the second died some days or weeks after birth. In four children galactosaemia was observed. The tenth child, born in 1950 (birth weight 2.5 kg.), had from the fourth day presented jaundice and galactosaemia with a large liver and bloody stools. He also had cataract. He died, 7 days old, although lactose was omitted from the diet, and at necropsy the liver showed steatosis and some cirrhosis.

Galactosaemia must be considered as an inborn error of metabolism of galactose. Symptoms are due to the toxic effect of the galactose that damages liver and kidney, and not to primary hepatic dysfunction.

Dr. John Gerrard (Birmingham). 'The Blood Sugar Level in Haemolytic Disease of the Newborn.' Many suggestions have been put forward to try to explain the development of kernicterus associated with haemolytic disease of the newborn; because none are entirely satisfactory it was decided to study the level of the blood sugar in haemolytic disease, for the brain is dependent on glucose for its metabolic substrate and it was hoped that a study of the blood sugar might provide a clue to the aetiology of kernicterus. The first case to develop hypoglycaemia also developed kernicterus. Treatment was therefore instituted to maintain the blood sugar at normal levels in succeeding cases; this, however, did not prevent the development of kernicterus. In 23 cases studied there was no dramatic fall in the blood sugar level, and yet one of these developed kernicterus; in a further 10 cases the blood sugar fell to an appreciable extent, and though four of these developed kernicterus, it cannot be due to hypoglycaemia per se for it may occur even when the blood sugar does not fall to low levels.

As there is a remarkable similarity between the babies of diabetic mothers and those with haemolytic disease, it is suggested that in those with haemolytic disease, as in babies of diabetic mothers, placental function is impaired, the serum oestrogens fall, and the maternal anterior pituitary over-acts thus suppressing hexokinase activity in the infant and leading to the islet hyperplasia found in haemolytic disease. The excess anterior pituitary hormone in the foetal circulation may interfere with the cerebral uptake of glucose and kernicterus may result from an interplay of the blood sugar level and the levels of circulating insulin and diabetogenic or growth hormone.

Dr. J. H. P. Jonxis (Rotterdam). 'The Influence of Differences in Food on the Amino-acid Excretion of the Infant.' A child who is getting breast milk excretes only small amounts of free amino-acids in its urine (4 mg. 2-amino-nitrogen/100 ml.) except during the first days of life when the excretion is considerably greater. This greater excretion of amino-acids during these first days may be the result of lack of food. Beside free amino-acids some amino-acids in the form of conjugates or peptides are present. When cow's milk is given the excretion of amino-acids is greater, even when the total amount of protein which the child gets is the same as that which it gets from breast milk. This higher excretion is mostly the result of a greater excretion of peptides. When cow's milk is given without vitamin C the total excretion of amino-acids rises still higher.

Of the urines of these two groups of infants two dimensional paper chromatograms were made. It was found that in children who were getting human milk, glycine, serine, alanine, histidine and proline were excreted as free amino-acids in somewhat greater quantity. In nearly all these cases taurine could be demonstrated. When cow's milk was given, taurine could not be demonstrated, but in addition to the amino-acids above mentioned there was a marked excretion of lysine.

Dr. R. E. Bonham Carter and Mr. D. Waterston (London). 'The Treatment of Patent Ductus Arteriosus in Infants under the Age of Five Years.' In 761 patients with congenital heart disease a clinical diagnosis of P.D.A. was reached in 85, or 11%. In 46 patients P.D.A. entered the differential diagnosis. Of the 85 patients with P.D.A. 71 had typical continuous murmurs: 12 of these developed under observation; 10 of these had distinct mitral diastolic murmurs at the apex. Three patients have shown marked right axis deviation electrocardiographically.
The indications for operation have been a radiological increase in heart size, a history of diminishing exercise tolerance and, in the babies, a failure to thrive.

It has been our experience that the operation for ligation of the patent ductus arteriosus is easier to carry out, and is better tolerated, under the age of 5 years.

The reasons for this are (1) the ductus is more easily exposed and dissected, (2) it is safer because the tissues are more elastic and not so readily torn, (3) the post-operative complications are fewer, (4) treatment is completed before school age.

Fifty-one cases have been operated on; in all cases the ductus was ligated; 14 of these children were under the age of 5 years.

There have been no deaths and no cases of recanalization.

Post-operative complications have been few and there have been none in those under 5 years.

All cases operated on have been improved clinically with decrease in heart size.

Dr. A. Holzel (Manchester). 'Follow-up of 200 cases of Pink Disease.' Of 200 patients, 37 had died and of the remaining 163, 110 were re-examined. Eighty were found to have developed normally physically and mentally. Thirty showed various psychosomatic disorders.

Fifteen per cent. of the cases had some relationship with the allergic diathesis. No second attack was recorded. Of 97 cases, 50% had a history of mercury exposure, and 62.5% excreted mercury in abnormal quantities in their urine, whilst only 7% of healthy infants in Manchester and Salford, and 37% in Warwickshire, ingested mercury in teething powders. It was evident that mercury was a relevant factor in the aetiology of acrodynia but not necessarily a causal one. In some cases prolonged mercury ingestion may produce signs and symptoms similar to pink disease. The raised serum cholesterol level, when present, may serve as an indication for B.A.L. treatment.

Dr. F. J. Ford (Glasgow). 'Red Finger Tips in the Neonatal Period.' Redness of the terminal phalanges of the fingers during the neonatal period was described and its significance discussed. It is not seen in normal babies after the second or third day of life.

The redness was shown to be associated with a variety of other upsets—vomiting, diarrhoea, fever, loss of weight, upper respiratory catarrh, and paronychiae. Charts were shown demonstrating the association of these abnormalities with the time of appearance of the finger redness. It was suggested that the redness should be regarded as an early indication of infection, probably respiratory infection, and as an indication for the institution of anti-infective treatment. Big babies might not require any treatment but small or feeble infants should be treated as soon as redness of the fingers is noted.

The conclusion was drawn that examination of the finger tips during the neonatal period is an important and helpful procedure.

Dr. T. E. Oppé (London). 'The Effect of Hypoxia and Hyperoxia on the Respiration of the Newborn.' Dr. Cross and I have studied the effect of differing oxygen concentrations on the minute volume, respiration rate, and tidal air, of full term and premature infants, using the body plethysmograph of Cross (1949) and applying the required gas mixture (100% O₂, 15% O₂ with 85% N₂) by the technique of Cross and Warner (1951).

With the sudden application of 100% oxygen, both the premature and the full term infant show immediate diminution in pulmonary ventilation, which is slightly, though not significantly, greater in small prematures (<4 lb.). In all groups there is a subsequent stimulation of respiration with a significant rise in minute volume.

During the inhalation of 15% oxygen in the inspired air, all groups show an immediate rise in minute volume, which is not well maintained in any group, but least in the premature.

When premature infants are given 100% oxygen immediately after five minutes on 15% oxygen, there is a marked reduction in the minute volume which is significantly more marked in the infants of less than 4 lb. than in those between 4 lb. and 5½ lb.

It is tentatively suggested that there is an active carotid body reflex in the full term and premature infant, but that this reflex accommodates more completely in the premature than in the full term infant.

REFERENCES

Dr. K. W. Cross (London). 'Treatment of Asphyxia Neonatorum by Electrical Stimulation of the Phrenic Nerve.' An instrument was described which is capable of electrical stimulation of the phrenic nerve, and the technique of its application in performing artificial respiration in the newborn was noted.

The results of 30 experiments in the treatment of asphyxia neonatorum, together with the appropriate case histories and subsequent course of these infants, were given.

The infants were simply classified as slightly, moderately and severely ill, and of 30 infants, 26 recovered. In 19 of these, measurements of the
current required to achieve diaphragmatic movement were taken. It was found that, in general, a stronger stimulus was required in order to evoke a response in the severely ill babies than in the slightly ill. There were nine infants in the severely ill group, of whom four died; all the infants in the other groups survived. All the infants who died showed evidence of some pulmonary inflation and had pathological lesions other than asphyxia.

Electro-phrenic stimulation with this apparatus appeared to be successful in achieving pulmonary inflation, without risk of pulmonary emphysema or distension of the stomach, by calling into play the normal muscles. There has been no evidence of any ill-effects at the time of stimulation or subsequently.

DR. D. GAIRDNER (Cambridge). ‘Erythropoiesis in Infancy.’ Twenty-five healthy infants were followed from birth to 3 months, and from these 102 samples of tibial marrow and the same number of venous blood samples were examined. The marrow erythroid count (the number of nucleated red cell precursors per c.mm. of marrow aspirate) was used as an index of erythropoietic activity. It was shown that the changes in Hb. and red cells from birth to 3 months could be accounted for solely on the basis of changes in the level of erythropoiesis.

Evidence from various sources suggested that erythropoiesis is governed by the oxyhaemoglobin level of arterial blood. In late foetal life arterial blood is probably about 65% oxygen saturated, so that the oxyhaemoglobin level is about 11·5 g. %. From 2 to 18 months the haemoglobin is maintained at a roughly constant level of about 12 g. %, or, since, arterial blood is 95% oxygen saturated, at a level of about 11·5 g. % of oxyhaemoglobin.

Thus in both the foetus and the infant up to 18 months, erythropoietic tissue can be regarded as ‘set’ to maintain an oxyhaemoglobin level of about 11·5 g. %, and on this assumption the changes in the blood picture after birth are found to be those which would be anticipated.

PROF. A. TEN BOKKEL HUININK (paper read by Dr. W. K. Diecke, of Utrecht). ‘Excretion of Fat in Coeliac Disease.’ Observations on the effects of wheat flour and wheat starch on fat-absorption, and on the differences between the absorption of saturated and unsaturated fatty acids, are to be reported elsewhere.

DR. A. RUSSELL (London). ‘A Diencephalic Syndrome of Emaciation in Infancy and Childhood.’ The cardinal feature of a syndrome presenting in infancy in a series of five children was profound emaciation linked in all with initial growth acceleration, and in four with locomotor overactivity and euphoria. There is uniformity also in lesser features including skin pallor associated with a normal haemoglobin (akin to adult hypopituitarism), hypotension, and hypoglycaemia.

All appear to share a common pathological basis in the shape of a neoplastic process directly and predominantly involving the anterior hypothalamus, and indirectly the hypophysis. In four, craniotomy has confirmed the gross location, biopsy revealing astrocytoma in each. Precise delineation of their limits within the diencephalon must await necropsy. In the fifth case ventriculography has exposed the gross anterior filling defect of the third ventricle characterizing previous cases, and craniotomy is planned.

One mechanism underlying the emaciation is a disproportionately enhanced energy output, the result of locomotor overactivity and increased basal metabolism confirmed in repeated studies. That a contributory role is played by anterior pituitary defect, especially of its anabolic function in tissue protein synthesis, was suggested by results of treatment with an anabolic steroid, and by the detection of pituitary functional impairment.

Experimental studies have reproduced most of the ingredients of this symptom complex by lesions in anterior hypothalamic areas, all readily encompassed by a small organic lesion. Furthermore, euphoria and the absence of natural shyness and hostility may be induced by organic interruption of the fronto-thalamo-hypothalamic circuit simulating leucotomy, or lesions confined to the dorso-medial thalamic nuclei (Spiegel, Wycis, Marks, and Lee, 1947).

Diagnosis is not invalidated by the absence of conventional signs of intracranial hypertension. The recognition of this symptom-pattern may afford an opportunity of diagnosis even years before these signs appear. Fuller study of a possible diencephalic mechanism, other than neoplastic, underlying other examples of emaciation may be encouraged by the correlation illustrated.

REFERENCE

DR. J. SLOOFF (Eindhoven). ‘Healing of Bronchiectasis.’ Thirty-two bronchiectatic children aged under 10 years were re-examined by bronchography from two to 16 years later. In chronic cylindrical bronchiectasis spontaneous recovery is uncommon, but improvement is possible even if there is moderate sauculation. Often the dilatation becomes stationary and produces no symptoms. To cure the bronchial infection and to prevent relapse, the upper air passages should be treated;
postural drainage should be used, and appropriate antibiotics should be instilled into the trachea over a long period. This treatment produced improvement in saccular bronchiectasis. In 10 cases of cylindrical bronchiectasis three patients were cured, and five showed improvement. The two who did not respond had bronchial stenosis.

MR. DENIS BROWNE (London). 'Lymphangioma.' Congenital abnormalities of the lymphatic system may be classified into four types: (1) the cystic lymphangioma or cystic hygroma; (2) the cellular lymphangioma, which may consist of either a solid mass or a diffuse thickening; (3) mixed types of cellular and cystic lymphangioma; (4) congenital lymphatic obstruction, which usually is found in the lower limbs, and causes swelling of the feet which is obvious at birth.

Lymphangiomata vary rapidly in size, due to infection and sudden bleeding into a cyst. When they are in the neck this may be dangerous to life as they obstruct the air passages. In the speaker's experience they have no tendency to spontaneous disappearance following infection, as is so often stated.

Treatment of the cysts is either by aspiration and injection of a sclerosing solution, such as quinine urethane, or by excision.

Treatment of the cellular and mixed types is by excision. X-rays have no effect upon them.

Slides of various types were shown and their histories discussed.

DR. G. M. H. VEENEKLAAS (Utrecht). 'Cause and Sequelae of Intrapulmonary Shadows in Primary Tuberculosis.' It is known that lobar and segmental pulmonary shadows in primary tuberculosis are the result of a tuberculous lesion of the bronchus. We think that the same applies to all shadows in primary tuberculosis with the exception of the Ghon focus, haematogenous spreads, and some perihilar shadows developing as the direct result of a tuberculous lymph node on the surrounding lung tissue. It is evident that bronchial tuberculosis is more frequent even than pulmonary shadows in primary tuberculosis.

The majority of cases of primary tuberculosis heal completely both clinically and radiologically. Does bronchial tuberculosis usually heal without sequelae as well? Of a total of 50 patients, now in good health who had their shadow one to 16 years ago, 30 showed residual bronchial lesions—stenosis, ectasia, distortion, considerable lobar shrinking, hypertrophy of bronchi. Attention is drawn to the high frequency of stenosis, lobar shrinking, and bronchial hypertrophy which have seldom been seen hitherto. Being partly dependent on gravitation, drainage is best in the upper lobes, less in the middle, and least in the lower lobes. Symptoms are seen to decrease in inverse order.

It is concluded that complete recovery from primary tuberculosis may conceal severe residual bronchial lesions which are liable to cause complaints in middle or old age.

DR. G. A. NELIGAN (Newcastle-upon-Tyne). 'Non-tuberculous Osteitis of the Spine.' This paper describes the clinical features of an inflammatory lesion of the lumbar spine studied in six children between the ages of 1 and 2½ years. The disease has a gradual onset and bears a striking resemblance to Pott's disease, from which it may be distinguished by a negative tuberculin skin test, and a much shorter and more benign course. A notable feature of the symptomatology is the frequent occurrence of a hip syndrome grafted on to the basic pattern of the spine syndrome, but without any hip lesion. Evidence is put forward, chiefly from the literature, that Staphylococcus aureus is the probable causal agent; but penicillin does not appear to have any striking effect on the course of the disease. Reasons are given for treating the cases by immobilization in plaster during the active stage of the disease; but it should be possible to allow resumption of normal activity within about three months of the onset in most cases. The prognosis for function seems to be excellent, but radiographs are likely to show permanent changes.

PROF. R. S. PILCHER (London). 'Treatment of Hiatus Hernia.' A syndrome, dating from birth, of vomiting during and after meals, with varying amounts of bleeding and sometimes progressing to stricture formation, has been found to be associated with a sliding hiatus hernia and displacement of the cardia into the chest. That the oesophagus is not short but retracted is suggested by the laxity of the vagi. The vomiting may be projectile and simulate pyloric stenosis. Haemorrhage may be severe enough to endanger life. Reflux of the gastric content through an incompetent cardia is thought to be the cause of the symptoms. Reflux can be demonstrated radiologically, and the high position of the cardia and the degree of oesophagitis by oesophagoscopy.

An attempt has been made to treat the syndrome by repair of the hernia and replacement of the stomach below the diaphragm. The immediate results are good, but the operation alone cannot be expected to cure a stricture, although it may make its treatment by dilatation more rewarding. Of 11 cases treated, five had been previously diagnosed as pyloric stenosis. In five, operations had been done on a wrong diagnosis. A plea is made for more precise diagnosis of neonatal vomiting and for correction of the hernia before stricture develops.