SOCIETY PROCEEDINGS

INTERNATIONAL CONFERENCE OF PHYSICIANS, LONDON PEDIATRIC SECTION

[September 8—13, 1947]

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Royal College of Physicians, London arranged an International Conference of Physicians in London from the 8th to the 13th September, 1947. About 1300 members attended. I attended the meetings on behalf of the *Indian Journal of Pediatrics.*

The first meeting of the Pediatric Section was a joint meeting with the Cardiac Section. Subject was Surgery of Congenital Heart Diseases.

SURGERY OF CONGENITAL HEART DISEASE

HELEN TAUSSIG (U. S. A.), who has got a unique experience on the surgery of congenital heart diseases opened the subject. She stressed that though cyanotic type of congenital heart diseases generally represents FALLOT'S tetralogy, it is important to distinguish it from Eisenmenger's syndrome for therapeutic purposes as there is a good pulmonary blood flow in the latter condition. The chief complaint in Fallot's tetralogy, is persistent cyanosis. The systolic murmur produced in this condition is due to pulmonary stenosis, which varies from complete atresia to an indefinitely formed narrowing. In the former a patent ductus arteriosus is necessary for the maintenance of life. The radiological picture is characteristic with marked concavity of the heart shadow in the region of the pulmonary conus. The heart is not enlarged and may even be small. The lungs remain clear. A rightsided aorta is found in nearly a quarter of all the examples of Fallot's tetralogy. The principle of operation in this condition is to direct systemic arterial blood into the pulmonary artery, so that an adequate proportion of the blood stream is oxygenated. Operation is undertaken only (1) if lung circulation is inadequate, (2) if the systemic and pulmonary arteries can be used for or adapted to the anastomosis, (3) size and structure of the heart is such that it can adjust itself to the altered circulation.

A. BLALOCK (U. S. A.), described the technique of the operation. The great vessels are approached, he said, through the third right interspace anteriorly and the pulmonary artery is dissected free. The mediastinum is next opened and the innominate artery is dissected and

controlled proximally with a clamp Subclavian artery is then divided as high as possible and turned down to lie in position against the superior aspect of the pulmonary artery. A transverse opening is then made into this vessel and an anastomosis is formed. When the clamps are released, the systemic blood can enter along the pulmonary artery both ways, this is better than an end to end anastomosis. In the course of 474 cases the mortality was very low and three-fourths of the patients improved considerably both physically and mentally.

J. W. BROWN (Grimsby), discusesd the various pathological varieties of heart disease with a pulmonary stenosis. He also discussed about other cyanotic conditions in which pulmonary stenosis was not the cause. Abnormalities of the aortic ring is one of them. He stressed the importance of specialised form of investigation in all these cases.

C. CRAFOORD (Sweden), was of opinion that coarctation of aorta is much more common than is generally supposed. Clinical feature depends on the hypertension above the structure and hypotension below it. It has been thought that it is a harmless lesion but careful search has shown that 25 per cent of the patients die before the age of 20 and about half before 40. Hence it is important to diagnose it in the young so that operative treatment can be taken up. Oscillography is helpful in determining the blood pressure of the limbs and angiocardiography often helps in locating and confirming the site of the stricture. Radiography shows the absence of aortic knuckle, a long curving of the aorta to the right, dilation of the left subclavian and erosion of the ribs due to extreme tortuosity and dilation of the collateral intercostal vessels. On barium swallow, two indentations in œsophagus made by the aorta and subclavian artery are seen.

He then described the operation which he performed on 22 patients. Before doing it on human subjects, experiments on dogs were carried on. It was found that if adequate cerebral circulation can be kept up, aorta can be clamped for a period up to half an hour. The aorta is isolated and after controlling the necessary vessels, the stricture is excised and the ends brought together by direct suture.

CRAFOORD, then narrated his experience with 101 cases of ductus arteriosus. Mortality rate was two per cent. The ductus was ligated in 69 patients and actually divided in 32. Recanalisation can be avoided if proper selection is done before operation. He then showed a film of the operation.

RAE GILCHRIST (Edinburgh), gave his experience in 70 cases of patent ductus arteriosus. He stressed the importance of fluoroscopy. A faster and vigorous heart is seen with a definite "hilar fling" in the aortic and pulmonary region. He agreed with CRAFOORD that early operation is indicated in these cases but he was of opinion that the ductus may close spontaneously up to 7 or 8 years. The improvement in general health after the operation was remarkable.

O. S. TUBBS, HOLMES SELLORS also gave an account of their experience in patent ductus arteriosus.

CRIGHTON BRAMWELL (Manchester), PRICE THOMAS and MAURICE CAMPBELL joined in the discussion.

BRAMWELL said that many of the patients with coarctation of the aorta were above 30 years of age.

THE SECOND SESSION

Quite a number of subjects were discussed in the second session of the Conference. The first subject for discussion was:—

HAEMOLYTIC ANAEMIA

S. VAN CREVALD (Holland), thought that spleen plays an important part in hæmolytic anæmias. Normally spleen is related to blood destruction and examples are seen in which red cells, leucocytes and platelets are destroyed. He calls the complete syndrome " splenic panhæmatopenia." It may be a primary condition or it may be secondary to such a condition as congenital familial jaundice. He cited examples of each kind. He pointed out that a boy with anæmia, leucopenia and thrombocytopenia will be classed as a case of aplastic anæmia. But if a hyperactive bonemarrow and a large spleen is found along with it, splenectomy is sure either to cure or alleviate the symptoms. Animal experiments have been made with spleen extract.

I. A. B. CATHIE (Great Ormond Street Hospital), presented the work on Rh antibody in Rh negative mother's milk. The chief problem of erythroblastosis fœtalis is to keep them alive for 2-3 weeks, when they can manufacture resistant red cells. Hence mother's milk is an important factor in these cases. He found by various feeding experiments that the antibodies passed in the mother's milk are either not absorbed by the infant's gastrointestinal tract or they are diluted in such strength that they cannot be detected in the blood. They can hardly do any harm.

In the discussion that followed ALAN MONCRIEFF considered that weaning of these babies is unfortunate. CATHIE'S work has shown that breast feeding may be continued. W. R. F. COLLIS (Dublin), agreed with him. D. F. CAPPELL (Glasgow), said that though he was the man responsible for suggesting weaning in these babies as he did not want to take any chance, in view of CATHIE'S work he agreed with MONCRIEFF and COLLIS.

WILKINSON (Manchester), opined that hæmolytic anæmia required more study. All cases of hæmolytic anæmia, as shown by VAN CREVALD is not due to erythroblastosis. Leukæmia may develop a similar kind of picture. A diagnostic bonemarrow puncture may settle up the diagnosis. If splenectomy is to be done it should be done as soon

as possible, before the patient develops any fatal hæmorrhage *e.g.*, cerebral.

MONCRIEFF asked whether there is any other antigen-antibody set up responsible for hæmolytic anæmia in the newborn apart from Rh factor.

CAPPELL opined that ABO antigen may also be responsible in certain cases.

STEATORRHOEA

A. C. FRAZER (Birmingham), delivered a learned lecture on steatorrhœa. It is very difficult to condense the lecture. He is of opinion that particulate absorption at pH 6·5 is the rule for the upper intestine, for fatty acid absorption in the lower intestine a pH of 8 is a necessity. Analysis of defective fat absorption is difficult. In regional ileitis particulate absorption is nearly normal. In sprue emulsification is normal, but not in obstructive jaundice or pancreatitis unless taurocholic acid or pancreatic juice is added. To be absorbed particles must be negatively charged and must have an interfacial film of fatty acid, bile salt and monoglycerides. Fatty acids and fat particles get into the intestinal cell, the latter with the aid of adrenal cortical hormone. Choline helps them to get out into the villus. Fatty acids go to the liver by the portal system, particularly to the fat depots by way of the thoracic duct and the systemic circulation.

M. BODIAN (Great Ormond St.), then presented his paper on Cystic Fibrosis of the Pancreas. These patients may present as either of the following three groups:—

(1) Neonatal intestinal obstruction, so called meconeum ileus.

(2) At one year or so, they come with recurrent bronchopneumonia, or feeding difficulties or early respiratory difficulties.

(3) Beyond one year of age, they generally come with cœliac syndrome, bronchiectasis or rectal prolapse. About 3·5% of the cases belong to this group.

This is a familial condition. Splitting of fat is normal, but absorption is abnormal. The duodenal content does not contain any trypsin. This finding is diagnostic. Pathological findings are seen in pancreas, trachea, gall bladder, duodenum, salivary glands, uterine glands. The acini and small duct everywhere, of all glands, show all degrees of dilatation and the lumina are filled with an inspissated material. He said that he did not know the etiology of the condition but would consider it as a pluriglandular disease.

In opening the discussion, NOBARRO asked whether dysentery got any relation to steatorrhœa. H. S. BAAR (Birmingham), did not agree with BODIAN'S thesis regarding etiology of the fibrocystic disease of the pancreas. An imbalance between sympathetic and parasympathetic

nervous system may be the basic cause. HIMSWORTH considered that the pictures shown by BODIAN showed changes indistinguishable from those of GILLMAN produced by feeding rats on a Bantu diet. VAN CREVALD pointed out the similarity to vitamin A deficiency. FRAZER said that infection could not be incriminated as a cause. He asked whether this condition might be due to an imbalance between glandular secretion and washing out of the same from the gland. BODIAN in answer said that he could detect no histological change in sympathetic or parasympathetic nervous system. Secretion was normal and no other evidence of vitamin A deficiency could be detected.

USE OF AMINO ACIDS IN PEDIATRICS

ROTHE MEYER (Denmark), opened the discussion with demonstration of two pictures of a baby before and after amino acid administration. He presented carefully recorded case reports and opined that amino acids have got very little use in Pediatrics. J. M. SMELLIE (Birmingham), presented his work. He said that to administer amino acids orally is not an easy job as these are very unpleasant to take. But babies are not so fastidious as an average adult. He thought that amino acids may be useful in the following conditions: Cystic fibrosis of the pancreas, milk protein allergy, gastro-intestinal infection in neonatal feeding, acute enteral or parenteral infection, marasmus, prematurity. The last two conditions are the special indications for amino acid therapy. In these conditions high protein intake is of paramount importance. Anorexia in prematures may be due to lack of amino acids. Criteria of normal growth are weight gain, positive nitrogen balance and normal serum protein.

HIMSWORTH asked whether there was any evidence that predigested protein was more useful than ordinary protein, when given by mouth. MEYER asked whether it is really desirable for a premature baby to gain weight rapidly.

Breast milk is most probably the best food for immature infants.

THIRD SESSION

On September 12, 1947, the sections of chest diseases, pediatrics, and social medicine held a joint discussion on B. C. G. vaccination.

Sir WILSON JAMESON presided.

B. C. G. VACCINATION

W. H. TYTLER (Cardiff), opened the subject. He said that Great Britain is the only country which has contributed little or nothing towards the advancement in the knowledge of B. C. G. vaccination. It might be due to national conservatism. The B. C. G. vaccine varies in its applicability to different groups; it might be very useful for susceptible persons **e.g.**, Red Indians. It seems that where the in-

cidence of tuberculosis is low, B. C. G. is less effective ; as low incidence represents the residue of immunised population. In Britain, though some advantage may be claimed from B. C. G. vaccination, local abscess formation may prejudice people against other immunising procedure *e.g.* smallpox and diphtheria, which are of much more importance for children in Great Britain. It might be conveniently used in special cases *e.g.*, Norway, Sweden, Eastern Countries, Africa. But in Great Britain the field is smaller and situation has changed lately. The incidence of the tuberculin negative nurse is perhaps lower in Great Britain than in other countries and so is the incidence of active tuberculosis in nurses ; even then a controlled use is well worth trying as the demand has become more, mainly due to the outstanding work of HEIMBECK.

ARVID WALLGREN (Stockholm) said that experimental and clinical observation shows that first infection by tuberculosis protects the man from subsequent infection. It is due to specific immunity. The same immunity can be developed by antituberculosis vaccination. Today vole bacillus has been used experimentally. But it has not been extensively used in human beings. B. C. G. vaccine is now safe and non-virulent and the new methods of injection are free from unpleasant consequences. The multipuncture route confers a shorter period of immunisation than the intradermal. Sometimes a small local abscess may follow but it can be prevented by good technique. Incubation period is 6 to 8 weeks ; it may go up to 12 weeks. Control by tuberculin tests is essential ; there is no point in vaccinating a tuberculin positive reactor. Tuberculin sensitivity disappears more quickly after B. C. G. than after natural infection, but there is no reliable method of distinguishing between the two. When tuberculin reaction becomes negative, then it is safe to say that the immunity is not there and the subject is to be revaccinated. Vaccinated child may fight the primary infection with much more ease than the non-vaccinated.

The criteria for estimating the value of vaccination are that the dose must be adequate, that there must be a control group, that the risk of infection must be equal in the vaccinated and the controls, and that the numbers should be sufficient. Unfortunately it is very difficult to have a control group of people in Scandinavian countries, as no physician will deliberately withdraw B. C. G. vaccination. He believed that B. C. G. vaccination is most valuable in conquering primary infection in childhood. It should prevent primary infection.

From a pediatrician's point of view this is important as in childhood, it is the primary tuberculosis from which the child dies. Until we posses something more effective, it is likely to retain its place for this purpose. His advice to Great Britain was to " give it a fair trial."

J. HEIMBECK (Oslo) said that the real question is whether the immunising effect of a natural primary infection can be improved on

by B. C. G. The old German and Austrian figures showing almost universal childhood infection are not true for Norway. He showed statistical tables of the Ullevaal nurse entrants who have been vaccinated, group by group, since 1927. They were all healthy women, aged about 20, living and working under the same conditions, and the incidence of tuberculosis was greatest during the first year in hospital. Up to 1936 he has records of 1,453 probationers and the morbidity rate per 1,000 observations years for these was 12·4 for tuberculin-positive nurses, 141·2 for the tuberculin-negative who had not been vaccinated, and 24·1 for tuberculin-negative nurses vaccinated with B. C. G.

G. S. WILSON dealt with the various statistical figures published on the work on B. C. G. and tried to prove that some figures were not statistically significant. Conditions of successful test are that the culture should be used within a week; that the strain should as far as possible be of fixed virulence; that local inconveniences of inoculation (*e.g.* abscess) should be eliminated; and that the vaccinated should be segregated for 6 weeks before and for 2-3 months after vaccination. This last criterion makes B. C. G. vaccination an essentially different practice from all other forms of immunisation. None of these conditions is impracticable, but together these constitute a formidable problem. Nevertheless an adequate controlled experiment is the first essential.

J. HOLM (Denmark), spoke of the work of the Copenhagen Serum Institute in the control of tuberculosis with B. C. G. Infant vaccination is carried out only under exceptional circumstances, and for the most part the inoculations are made during the school years and in early adult life. Vaccination, which is voluntary, has reduced tuberculosis morbidity to one-fourth. Generally after 6-8 weeks, 97% of the vaccinated become tuberculin-positive and 95% of them remain positive even after 4 years.

W. R. F. COLLIS (Dublin), considered this as a pædiatric problem. He thought that time has come when we should look into this problem, as quite a number of children die from tuberculous meningitis and B. C. G. is safe in these cases. He related his experiences with the vaccination of newborn babies at the Rotunda Hospital. He did not have any local ulcer by the Swedish vaccine. He asked the question, will the vaccine prevent fatal acute generalised tuberculosis? He believed it may.

PHILIP ELLMAN, DAVID NOBARRO and A. L. JACOBS also urged that England should look into the possibility of using B. C. G.

ELLMAN agreed that the pattern of tuberculosis is quite different in different countries *e.g.*, erythema nodosum is very common in the Scandinavian countries but not in England. In his opinion, however, the Scandinavian workers have made out a good case for B. C. G. trials. He thought that some consideration should be given to Vole

bacillus. It is essential that one person should be responsible for the preparation of the vaccines. The vaccination must be truly intradermal.

WALLGREN in his reply said that newborn infant is vaccinated because it is easy to vaccinate at that time. In Sweden all children are born in Maternity Hospital. Secondly, one does not know when this child is going to be infected. The mortality from tuberculous meningitis is very low in Sweden and he has not seen a case following B. C. G. vaccination. Vole bacillus is equal to B. C. G. in all respects. This is worthy of trial. In Sweden no segregation is required, as all adult patients are in sanatorium. One milligram is regarded as the crucial test for Manteux reaction.

HEIMBECK also in reply said that a million people have now been voluntarily vaccinated in Scandinavia. This was only possible because there was not much complication. He was opposed to compulsory vaccination.

Most of these lectures have been published in the *British Medical Journal*. WALLGREN in reply to the critics in England published an article on 'The Principle of B. C. G. Vaccination' in *The Lancet* 1: 237, February 14, 1948, where he said that the first tuberculous infection confers an increased resistance against subsequent infections. This resistance is due to specific immunity.....it seems to protect him against the immediate danger of new exogenous infections. In addition to the specific immunity there is in man a non-specific natural resistance, the degree of which determines not only the pathological effect of the first infection but also the remote fate of the infected.....The degree of natural resistance against tuberculosis is, however, not constant.....it is slight during infancy and increases up to school age, after which it decreases.....In most countries the majority of the population become infected shortly after childhood, in puberty and adolescence, at a time when natural non-specific resistance against tuberculosis decreases. B. C. G. vaccination, however, should have the same protective value at this age as in the susceptible ages of childhood, and the vaccine should prevent manifest primary and early post-primary pulmonary tuberculosis at this age. To colleagues who still hesitate to use it I plead: "Give B. C. G. vaccination a fair trial, and you will be convinced of its effectiveness."