

be respected. It was vital for it to learn to stand in some way or other with a prosthesis at the time when the psychological need to stand appeared. Smaller children were demonstrated to illustrate this, including one magnificent star performer who gained a round of applause for pushing a trolley across the stage.

Power-operated Arms

Dr. MCKENZIE introduced the controversial subject of the use of power in prostheses of the upper limb; he said that the conventional prosthesis was now near the end of its field of development. So far, the use of power was confined to the insertion of pneumatic motors into conventional prostheses. Main centres of research on this question have been at Heidelberg and in Dr. Kinnier Wilson's unit at Hendon. One of the difficulties of power was the lack of kinaesthetic sensation. Dr. KINNIER WILSON himself then demonstrated one case of a boy who had bilateral power-operated arms. An air cylinder was carried on the hip and a trigger operated by rudimentary fingers: he was able to carry out flexion and extension of the elbow at varying speeds. At the moment the valves stuck out awkwardly from the prosthesis but this could be improved. They were lighter than the conventional prosthesis and rather neater than the Heidelberg limb. Electric motors were smaller than pneumatic motors but much heavier and one could not get the same degree of power.

Mr. SWETNAM, of the Engineering Department at Roehampton, said that the main problem was that of control. The Russians were working on methods of operating a hand by myoelectric signals, but this did not at present have the degree of control which could be obtained by other methods.

Role of Surgery

Mr. L. GILLIS (Roehampton) said that surgery should be in general confined to the lower limbs, with the object of restoring alignment and reducing contractures. Manipulation should be tried first; tenotomy, osteotomy, or excision of joints should be used only if more conservative measures failed. Amputation should not be done unless it was certain that nothing short of this could help. Surgery of the upper extremity was in general disappointing and not worth while. Mr. W. J. W. SHARRARD (Sheffield) disagreed with this and said that in occasional cases a fibular bone-graft might be valuable to increase the length of arm-stump available.

Re-education

Dr. R. WIGGLESWORTH (Northampton) discussed the general management of these patients from the point of view of the paediatrician. It was essential to ensure complete acceptance of the handicapped baby by the mother, and there should be no delay in telling her of the disability of the child. She should be reassured, encouraged, and helped. Many departments of the Health Service should be called into play, including almoners and social workers. The local authority, the education services, and various voluntary societies should also co-operate. The child should lead as normal a life as possible and over-protection should be avoided. It must be remembered that these children were of normal intelligence.

Dr. WINNER summed up the meeting by once again reminding those present that the problem, while serious, was not so large that it could not be grappled with. She quoted Professor Hepp's remark that so far as artificial limbs were concerned we were in the same position as the motor car in 1910. It was necessary to get to 1962 as soon as possible. One thing which could and would be improved was the speed of making limbs available. The maximum delay with arms now was only one month. Legs took a little longer since they were less standardized. So far as powered prostheses were concerned she hoped we might be on the threshold of great things.

PERINATAL MORTALITY SURVEY*

[FROM A SPECIAL CORRESPONDENT]

The second meeting on the Perinatal Mortality Survey of the National Birthday Trust Fund was held at the Royal College of Obstetricians and Gynaecologists on November 23. The honorary convener was Mr. A. J. WRIGLEY. For the morning session the chairman was Sir DUGALD BAIRD. In the afternoon the chairman was Professor A. A. MONCRIEFF.

The opening speaker, Professor W. C. W. NIXON, pointed out that the survey was unique, but it disclosed no cause for pride in the perinatal mortality figures in England and Wales, for these were worse than in many other countries. Scotland was even lower on the list. Perinatal deaths now equalled the sum of all deaths during the first four decades of life. The perinatal death rate was also an index of the number of "near" deaths which might show as defects at a later date: the causes of death—prematurity, toxæmia, rhesus incompatibility—were known to be associated with mental and physical defects in some of the survivors. With a reduction in perinatal mortality these would be reduced and so would maternal mortality and morbidity.

Need for Improvement in Maternity Services

In the Perinatal Mortality Survey doctors and midwives had collaborated to study their own faults in a way hitherto unknown in any branch of the Health Service. The results showed that many expectant mothers were having only the second best. It had been suggested that the maternity services had changed for the better in the last three years, and that the Survey did not now relate to the current state of affairs. Professor Nixon refuted that suggestion absolutely. Births had gone up in recent years, but staff and beds had not increased proportionately. In 1960 there were actually 500 fewer midwives than in 1955, and they had to deal with over 117,000 more births than five years previously. Meanwhile the number of obstetric specialists remained virtually static. The findings of the Survey must be implemented in a spirit of co-operation and not of competitiveness.

Post-mortem Results

Dr. A. E. CLAIREAUX reviewed the post-mortem examinations on the babies who died, analysing the 2,358 singleton deaths that occurred in March, 1958. Post-mortem examinations were done on 93% of them. Nearly one-third of these were macerated, one-third were fresh stillbirths, and of the remaining one-third more than half died on the first day of life. Thus more than 50% of all deaths occurred during labour or on the first day of life. Thirty-five per cent. of all the deaths occurred from intrauterine asphyxia and 20% were from congenital malformations, chiefly of the central nervous system. One-half of the deaths from malformation of the central nervous system were due to anencephaly, and most of the remainder had hydrocephalus. Only 3% died of trauma, and 7% from a combination of asphyxia and trauma. These babies were conceived before thalidomide was available, and among nearly 25,000 babies there was only one case of phocomelia. But a major congenital malformation was found in 5.5 per 1,000 births.

Postmaturity

Professor J. C. McCLURE BROWNE spoke on postmaturity. Some said this was a risk only in primigravidae, or that it was worse in older women and in big babies. But evidence had been accumulating that there were adverse placental changes

* Previous reference to the Survey will be found in the *British Medical Journal* of November 3, 1962, p. 1187.

after term. The Perinatal Mortality Survey had provided a marvellous chance to study an unselected group. Of 17,000 women, 15,000 were sure of their dates. The Survey results confirmed that perinatal mortality increased after 41 weeks, doubled by 43 weeks, and trebled by 44 weeks. Even when cases of toxæmia, malformation, and antepartum hæmorrhage were excluded, there was not much difference in the figures. But in the presence of toxæmia the danger occurred one week earlier. The risk also increased with increasing age and parity of the mother.

Increased birth weight was not the trouble in this condition. The mean weight of these babies was the same as in the other babies, and the proportion of large babies among them was actually smaller. It seemed then that a large baby and disproportion was not the only factor of importance in postmaturity. Most important were the placental changes.

The figures showed quite clearly that perinatal mortality was lower in overdue mothers if labour was induced. Whether and when to induce must be decided for each individual patient, but induction should be done only where there were full facilities for caesarean section.

Induction

Mr. DENNIS BONHAM said it was important not to induce labour a month early by mistake. Mortality rose even more steeply on the premature side of term than afterwards. It was essential to compare the uterine size critically with the calculated maturity at antenatal examinations. This necessitated antenatal records with columns for both calculated and observed maturity at each visit.

About 14% of hospital cases had amniotomy. Low rupture worked more quickly than high rupture. Of the women who had a low amniotomy performed 87% were delivered in 48 hours, compared with only 71% of high amniotomies. Caesarean section was needed in 4.8% of the low amniotomies and in 5.2% of the high amniotomies. It was sometimes said that low rupture had a greater risk of foetal infection than high rupture; but a rate for infant pneumonia of 11.2% after high rupture was significantly greater than that of 6% after low amniotomy, which was little worse than the overall figure of 5.1%.

Caesarean Section

The national incidence of caesarean section was 2.7%, and the case mortality was 7.2%. The relative mortality figure for caesarean section was 232, compared with 100 for all cases in the Survey. The incidence of caesarean section performed before labour began, including emergencies, was 1.4%, giving a relative mortality of 292. This was a good deal higher than in caesarean sections done during labour, the relative mortality of which was 183.

There was a remarkable regional variation in the incidence of caesarean section, varying from 2.0% in north-east England, Yorkshire, and Wales, to 3.6% in the Midlands. The regional relative mortality also varied from 150 in Wales to 279 in Scotland. The most important factor in mortality after caesarean section was the maturity of the pregnancy, measured by gestation rather than by birth weight. In those groups delivered before term there was a marked difference in maturity between surviving infants and infants who died. With the exception of caesarean sections done for foetal distress, the gestation period of the babies who died was less than the gestation period of those who survived.

Social Factors

Sir DUGALD BAIRD emphasized the importance of considering social factors in assessing the results of the Survey. Discussing the high perinatal mortality rates in Scotland and Wales, he pointed out that both South Wales and Scotland had long been depressed areas. Even now diseases such as rickets had not been completely eliminated.

Perinatal Death in Labour

Dr. MICHAEL DAWKINS spoke of the causes of perinatal death in labour. Of the total perinatal deaths 30% were due to asphyxia in labour of babies who were mature and otherwise normal. Reducing this figure would reduce not only mortality but also the number of surviving but damaged babies. About half the asphyxiated babies were known to have died in the first stage of labour. The remainder died in the second stage of labour or shortly after birth. It was important to note that of the babies who died of asphyxia shortly after birth only 1 in 10 received endotracheal oxygen, although this was now believed to be the most effective treatment.

Intrapartum mortality was lower in babies weighing between 2.5 and 4.5 kg. than in those who weighed less or more. It was also substantially higher in primigravidae and in grand multiparæ. In primiparæ the mortality was higher when the mother was below 20 or over 25 years of age. In multiparæ it rose after the age of 30, mostly from trauma or a combination of trauma and asphyxia. The incidence of asphyxia was also greatly increased when the first stage of labour had lasted for more than 24 hours or the second stage for more than 2½ hours; when the pregnancy had lasted for less than 36 or for more than 42 weeks; in the presence of even mild hypertension; and among those who were admitted to hospital as emergencies.

Death in the First Week of Life

Dr. NEVILLE BUTLER, Director of the Survey, spoke on the causes of death in the first week of life. In these babies the commonest post-mortem diagnosis was congenital malformation, which occurred in 2 per 1,000 births and in 20% of all deaths. The next commonest condition was hyaline membrane, followed by infection, delayed effects of birth trauma, and intrapartum asphyxia. Better facilities for the resuscitation of the babies by positive pressure, by the intratracheal route, might have reduced mortality in the latter group. Less than 1 in 1,000 received this type of resuscitation compared with 10 times as many who were given intragastric oxygen. The next most common diagnoses were the two causes of massive hæmorrhage, first into the lateral ventricles and secondly into the lungs. The two least common causes of death were resorption atelectasis and rhesus incompatibility. The results suggested that death in the first week of life could be reduced by further research on the problem of immaturity, together with improved regulation of the environment and the use of biochemical tests in babies of this age. It could also be reduced by better anticipation of perinatal infection and its early recognition and treatment. It was particularly important to observe carefully babies whose mothers were toxæmic and babies who were small for their dates.

One-third of all "premature" babies, weighing 2.5 kg. or less, were born at 39 weeks or more of gestation. These babies had a mortality rate of two and a half times the average. Dr. Butler suggested that these babies formed an entirely separate group requiring special attention and study. Large babies also needed special attention, since they too had a higher mortality rate.

Congenital Malformations

Dr. W. H. SCHUTT reviewed 1,500 congenital anomalies. Twenty per cent. of all deaths and 16 per 1,000 of all the births were associated with major congenital malformations.

Half of the affected infants had a malformation of the central nervous system. Of these 45.5% were associated with lesions elsewhere, most commonly in the renal tract. Anencephalus accounted for half the abnormalities in the central nervous system. Hydrocephalus with spina bifida was found in 27.6%, and hydrocephalus without spina bifida accounted for 8%. Anencephaly occurred most commonly in the infants of young primigravidae and in older multiparæ.

In the past history of mothers who give birth to babies with major abnormalities of the C.N.S. there was a threefold increase of previous malformations of the C.N.S. above the expected rate in the general population. The recurrences were not always of the same type. Among 486 women with anencephalic babies 13 had had a previous child with a malformation of the C.N.S. Six of these were anencephalic, and seven had hydrocephalus or spina bifida. Women with hydrocephalic children also showed a threefold increase in risk. Two of the five mothers with hydranencephalic children had had previous children with hydrocephalus, and one had had a mongol.

Oesophageal Atresia

During the course of the survey (in one week) there were 5 cases of oesophageal atresia, an incidence of 1 in 3,000 total births. During three months 52 cases of this condition were found. Factors that affected the infants adversely were pulmonary complications, associated malformations, and prematurity. The only significant abnormality found during pregnancy was hydramnios, which was mentioned in 40% of these cases and often precipitated premature labour. Although this association had been repeatedly stressed, the time-lag between birth and recognition of the anomaly in many cases suggested that it was still not widely known. It was always important to pass a catheter down the oesophagus of the infant if the pregnancy had been complicated by hydramnios. Early recognition would help to prevent the pulmonary complications and materially increase the chances of survival.

COLLEGE OF GENERAL PRACTITIONERS TENTH ANNUAL MEETING

The annual general meeting of the College of General Practitioners was held at B.M.A. House on November 24. More than 250 members and associates attended. Dr. ANNIS GILLIE, chairman of the College's council, presenting the annual report, referred to the sound constructive work that had taken place during the first 10 years of the College's life. There were now over 6,200 members and associates, 37 regional faculties (15 of them overseas), and three regional councils (in Scotland, New Zealand, and the Republic of South Africa, with another being formed in Ireland).

Education, Research, and Practice Organization

The year had been specially marked, Dr. Gillie said, by the acquisition of new premises at 14 Princes Gate (see *Brit. med. J.*, November 24, pp. 1378 and 1391), a freehold building worthy of the College's growing stature. The College had been invited a great many times during the year to co-operate, on professional issues, with academic bodies in this country, Europe, and the Commonwealth. It had been consulted by the Ministry of Health on matters pertinent to the work of family doctors, and it maintained close liaison with the British Medical Association and with the British Medical Students' Association. During the year Volume III of *Morbidity Statistics in General Practice* had been published—a reminder of what the College could achieve by well-designed inquiries covering many parts of the country. The College's journal was larger and continued to develop in quality and individuality. The subjects covered by the Medical Recording Service had increased in number, many of the recordings being illustrated with transparencies; a library of recordings was being built up—the first of its kind. A booklet on *Training for General Practice* was being published. Dr. Gillie also referred to the council's recent report on "The Content of General Practice" (*Brit. med. J.*, November 24, p. 1392).

The College's research programme continued to expand, and its Research Foundation was already supporting

individual projects. The practice organization committee had been active in assisting members with advice on new or adapted premises and on equipment. A three-year grant from the Nuffield Provincial Hospitals Trust was making possible a detailed inquiry into practice organization.

Elections and Presentations

Dr. F. M. Rose was unanimously elected president for 1962-3. Drs. G. F. Abercrombie, G. O. Barber, D. M. Hughes, A. Talbot Rogers, F. M. Rose, and Sylvia G. de L. Chapman, Mrs. H. L. Glyn Hughes, and the Hon. D. A. Cameron were appointed honorary fellows of the College.

Dr. William Blair (Glasgow) was presented with the Butterworth Gold Medal (1962) for an essay on "The Evaluation and Management of Backache in General Practice." The subject for the 1963 Butterworth Gold Medal will be "What I Mean by the Personal Doctor"; essays must be submitted to the chairman of the awards committee not later than September 28, 1963. Sixteen Upjohn Travelling Fellowships (up to £200 each) were presented to: E. S. Blackadder, J. L. Elliott, J. A. S. Forman, P. Freeling, J. H. Grant, Ian Gregg, R. C. Humphreys, C. Josephs, R. A. Keable-Elliott, I. H. Redhead, J. Saperia, D. G. Scott, J. Stevens, B. A. Thompson, E. Tuckman, N. D. Wright. Six Public Welfare Foundation prizes (£40 each) were presented to the following final-year students: J. Barry (University College, Cork, Medical School), Mrs. Annette Clement (Edinburgh University Medical School), E. Cockayne, M. Mitchiner, and Michael Smith (Guy's Hospital Medical School), and Errol Sue-a-Quan (Edinburgh University Medical School).

The following faculty representatives were appointed to the 1962-3 College Council: S. J. Carne (North London), G. S. R. Little (South London), E. B. Grogono (East London), R. Cove-Smith (West London), G. Swift (South-east England), D. G. Wilson (Northern Home Counties), W. G. Tait (Thames Valley), J. C. Leedham-Green (East Anglia), W. H. Hylton (South-west England), D. L. Crombie (Midland), K. M. Foster (North Midlands), R. A. Murray Scott (Yorkshire), P. S. Byrne (North-west England), G. L. Hindson (North-east England), W. L. Selkirk (Merseyside and North Wales), J. N. M. Parry (Welsh Faculty), R. Scott (South-east Scotland), W. S. Gardner (West of Scotland), J. M. Henderson (East Scotland), G. Swapp (North-east Scotland), G. H. Clement (North Scotland), A. S. Boyd (Northern Ireland), V. G. Doyle (East Ireland), S. Flannery (West Ireland), R. G. Cronin (South Ireland), R. G. Howes (Auckland), L. H. Cordery (Canterbury), K. Jack (Otago), P. C. McKinlay (Wellington), Mary Robertson-Glasgow (Kenya), R. L. Patel (Uganda), D. H. Pirie (Witwatersrand), P. F. Oates (Cape of Good Hope), P. D. Beck (East Cape), E. W. S. Deale (Natal Coastal Faculty), J. W. van der Riet (Orange Free State), J. H. Struthers (Northern Transvaal). Three elected members of Council were appointed: M. E. Arnold, H. L. Glyn Hughes, and R. M. S. McConaghey.

College Business

Among the items discussed was a new Article of Association concerned with criteria for admission to membership. This was amended and will now be referred to the Board of Trade for approval. At a meeting of the new council held later Dr. K. M. Foster was appointed chairman, Dr. G. I. Watson vice-chairman and Dr. J. M. Henderson deputy vice-chairman, Dr. H. L. Glyn Hughes honorary treasurer, and Dr. J. H. Hunt honorary secretary. Drs. J. F. Burdon, T. S. Eimerl, L. Lamont, H. N. Levitt, E. V. Kuenssberg, and J. A. Shearer were appointed additional members of Council.

The first expert committee devoted to cancer control convened by the World Health Organization recently met in Geneva. It elected as its chairman Dr. J. R. Heller, director of the Sloan-Kettering Institute for Cancer Research, New York, and as vice-chairman Professor A. I. Serebrov, director of the Institute of Oncology, Academy of Sciences of the U.S.S.R.