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Pointers

Is Screening for Cancer Worth While? Screening of 1,768 women at a hospital clinic for breast and cervical cancer discovered 15 patients with breast cancer and eight with carcinoma in situ of the cervix. None of the patients was aware of any abnormality (p. 696).

Toxocariasis: Professor A. W. Woodruff reviews the current knowledge of this parasitic disease of dogs, cats, and man (p. 663).

Kidney Transplantation: A series of 27 recipients of cadaver kidney grafts is reviewed. The one-year graft survival in 18 patients was 89%. Antilymphocytic globulin administration combined with prophylactic graft irradiation gave improved results (p. 670).

Internal Sphincterotomy for Anal Fissure: A survey of over 100 patients with anal fissure treated by lateral subcutaneous internal sphincterotomy shows it to be a satisfactory procedure, free from significant complications (p. 673).

Amantadine as Influenza Prophylactic: A double-blind trial in Finland of prophylactic amantadine showed that it gave some protection against influenza A2 infection (p. 676).

Smoking Behaviour and Nicotine Intake: A study of the effect of cigarette filters on smoking behaviour suggests that smokers adjust the nicotine dose obtained from a cigarette to some "optimum" level (p. 679).

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Renal Tumours: Radiology in their management (p. 689).

Immunization Schedules: Today's Drugs gives up-to-date advice on immunizing in infants and young people (p. 691).

Crisis in Venereology: Venereology clinics are overcrowded and frequently operate in inadequate premises with a shortage of trained staff (p. 699).

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Low Birth Weight and Intensive Care

Perinatal mortality has fallen to such low levels in the United Kingdom and other developed countries that every infant counts and none should die from avoidable causes. Regular conferences between obstetricians, paediatricians, and paediatric pathologists are therefore a necessary part of modern neonatal care, and they clearly show that unavoidable deaths are largely confined to infants of very low birth weight or with major congenital abnormalities. Good neonatal surgery offers the best hope of survival for most infants with operable malformations, and medical care is therefore concentrating more and more on infants of low birth weight.

The principal determining factor in the survival of these small infants is the quality of nursing they receive, and a full staff of skilled nurses can be satisfactorily maintained only in a large maternity hospital with a special-care unit designed and equipped for the purpose. It is therefore preferable to transfer very small infants to such a unit as soon as they are born rather than to attempt to care for them in a small hospital without the necessary resources. The quality of nursing care is the main reason for transfer, but the change which has taken place in the medical management of these infants over the past 20 years is also important. When it was generally believed that the less the very small infant was handled the greater his chances of survival, a policy of inactivity and delayed feeding could be adopted with equal success in small and large nurseries. The high incidence of neurological abnormality in the survivors of that form of management, so clearly shown by the studies of C. M. Drillien¹ and others, made it clear that greater efforts were required to prevent damage in the vulnerable postnatal period. This realization fortunately coincided with awakened interest in the physiology of the newborn, the availability of modern incubators allowing careful control of temperature, humidity, and oxygen concentration, and the development of new microanalytical techniques making continuous monitoring of the infant's biochemical status possible.

Most deaths among very immature infants are respiratory deaths, and skill in intubation of the larynx, in ventilating the lungs, and in other techniques of resuscitation is an important component of management. These abilities are generally possessed by anaesthetists, who have an important role to play in neonatal intensive care, especially in the training of junior paediatric staff, since the paediatric registrar will often be the person most immediately available when resuscitation is required. Whether it is in fact the anaesthetist, the paediatrician, or the obstetrician who resuscitates the infant is immaterial, provided the doctor concerned is proficient in the technique. Resuscitation is required not only to establish respiration just after birth but also to cut short the cyanotic attacks to which immature infants are liable and which may be damaging to the brain. The prompt recognition of apnoea is an important part of the nurse's task, since it may occur suddenly at any time, and immediate action must be taken to restore breathing. Other advantages of close, uninterrupted nursing observation are that regurgitation and inhalation of feeds can be dealt with

at once, and early signs of infection, such as grey pallor and diminished activity, can be recognized early. Death from both these causes is preventable but occurs all too often when nursing supervision is inadequate.

The respiratory distress syndrome of infants born before term has a high mortality rate, largely owing to the frequently associated intraventricular haemorrhage or to biochemical disturbance and physical exhaustion resulting from the respiratory difficulty. The treatment introduced by R. Usher,² in which the metabolic abnormality is corrected by intravenous infusion of alkali and glucose, requires the resources of a laboratory for proper biochemical control. Its main value is in moderately severe distress, when it may tip the balance towards recovery. Intermittent positive-pressure ventilation, which may also be life-saving in selected cases, is applicable only in large, well-equipped units, preferably with facilities for measuring gas tensions in small samples of blood.

The dangers of being born many weeks before term have long been obvious, but it has only recently been realized that the infant who is born at or near term but is of disproportionately low weight for his gestational age—the so-called light-for-dates infant—is prone to different kinds of disorder and requires correspondingly different treatment. A high proportion of these infants are congenitally malformed, so that abnormalities not readily identifiable at birth must be looked for. Light-for-dates infants are particularly liable to hypoglycaemia in the first days of life, which can cause permanent injury to the brain. There is little doubt that the delayed feeding practised in former years was responsible for much cerebral damage by accentuating and prolonging hypoglycaemia. Early feeding helps to prevent hypoglycaemia and also diminishes hyperbilirubinaemia. Expert nursing is again important to ensure that the benefit conferred is not offset by increased mortality from inhalation of milk. When there are contraindications to early feeding by bottle or tube, glucose should be given intravenously from 12 hours onwards, and the level of blood glucose should be recorded repeatedly if facilities are available.

The need to recognize the different kinds of infant of low birth weight has led to the present interest in methods of estimating maturity,^{3 4} and a generally agreed nomenclature is urgently needed. The recent suggestions made by an international working party at the Second European Congress of Perinatal Medicine in London⁵ form a useful basis for further discussion, and it is to be hoped that their sensible proposals will be widely accepted. If we are to learn more about these small infants and the value of intensive care, there must be prospective studies with full documentation of infants treated by modern methods and longterm follow-up. One such study reported recently from Helsinki⁶ showed an overall survival rate of 45% in a series of 49 infants weighing between 850 and 1,250 g. at birth and treated with all the resources of an intensive neonatal care unit. Preliminary follow-up data indicated that "only a few cases showed signs of permanent brain injury at the age of 2 years."

¹ Drillien, C. M., *The Growth and Development of the Prematurely Born Infant*. Edinburgh, Livingstone, 1964.

² Usher, R., *Pediatric Clinics of North America*, 1961, 8, 525.

³ Mitchell, R. G., and Farr, V., in *Gestational Age, Size and Maturity*, ed. M. Dawkins and W. G. MacGregor, p. 83. London, Spastics Society and Heinemann Medical, 1965.

⁴ Usher, R., McLean, F., and Scott, K. E., *Pediatric Clinics of North America*, 1966, 13, 835.

⁵ Working Party of the 2nd European Congress of Perinatal Medicine, *Developmental Medicine and Child Neurology*, 1970, 12, 384.

⁶ Vapaavuori, E. K., and Riih , N. C. R., *Acta Paediatrica Scandinavica*, 1970, 59, 353.

The difficulty in comparing the results of such studies is to be sure that the infants are comparable, because there are so many variables which could be taken into consideration—birth weight, gestational age, physical characteristics, maternal stature and smoking habits, social class, and so on—in addition to indices of clinical severity. To take account of all these would mean splitting the total group into subgroups so small as to defy statistical analysis, and yet by ignoring them inappropriate comparisons may be made and wrong conclusions drawn. Even in the biggest hospital it is virtually impossible to accumulate large enough series of infants studied at the required level of sophistication. These are very real difficulties, which make proof of the value of modern intensive care hard to obtain. Nevertheless, the survival rate among very small infants such as those in the Helsinki series has in the past been little more than 25%, so that a rate of 45% is at least strongly suggestive that a real advance in treatment has been achieved.

The implications are that we should be thinking in terms of regional centres where all the facilities for the intensive care of these small infants are available, and that small obstetric units should be considering how to ensure that as many small babies as possible are born in the regional centre and how best those who are born in the peripheral hospitals can be transferred. However, even the small obstetric unit can do much to improve neonatal care by ensuring a high quality of nursing for all newborn infants, with continuous close observation, early feeding, the controlled use of oxygen when necessary, and the prompt administration of glucose to light-for-dates infants who show signs suggestive of hypoglycaemia, such as tremors, twitching, or periods of apnoea.

Radioactive Patients

A patient discharged from hospital after receiving a therapeutic dose of radioactive material will be a source of radiation for a few weeks and perhaps of contamination to other people also. Implants of radium are given only to inpatients, and the radiation hazards to nurses, visitors, and other patients can be controlled without much difficulty. But a patient who returns home bearing an implant of radioactive gold grains emits gamma-radiation at a diminishing rate, falling to insignificant levels after a couple of weeks. Avoidance of bodily contact (particularly with children) is the only necessary precaution in the home.

A different problem arises after administration of a therapeutic dose of radioactive iodine-131, a procedure often conducted on outpatients. For a few weeks after treatment the patient will be emitting radiation and will also be discharging small amounts of radioactive iodine in urine, sweat, saliva, and even in his breath. The possibility of radioactive contamination of members of the patient's household has been recognized in official advice¹ that the patient should not return home by public transport if the amount of iodine-131 in his body exceeds 15 millicuries and should not return to work until this level has fallen (by excretion and natural radioactive decay) to 7.5 millicuries. Various other precautions relating to his conduct in the home are also specified.

The validity of these precautions is reviewed in a report by R.C.T. Buchan and J. M. Brindle² on work done in the Plymouth area. Radioactive iodine acquired by personal contam-

¹ Ministry of Health, *Code of Practice for the Protection of Persons Against Ionizing Radiations Arising from Medical and Dental Use*. London, H.M.S.O., 1964.

² Buchan, R. C. T., and Brindle, J. M., *British Journal of Radiology*, 1970, 43, 479.