Editorial

Perinatal nemesis

An epoch in neonatal care was the evolution of assisted ventilation from an experimental technique 30 years ago to a widely used clinical method today. Assisted ventilation and other methods of intensive care have been largely responsible for the rapid improvement in the survival rate of very low birthweight babies in the last 10 years. The price we are paying for our success stories in perinatal medicine is the generation of many new problems and dilemmas. We are faced with a kind of perinatal nemesis (retribution). Illich’s notion of ‘medical nemesis’ was destructive, whereas we in contrast feel that perinatal nemesis should stimulate us to seek new approaches to prevention.

The improved survival of very preterm babies has allowed disorders such as retinopathy, chronic lung disease, and haemorrhagic and ischaemic brain insults to become manifest. It is a moot point whether we class these and other problems as true examples of iatrogenic disease caused specifically by some aspect of treatment, or whether we argue that their origins lie with preterm birth itself. These and other potential causes of disability in surviving preterm babies are subjects of vigorous high quality research which contrasts vividly with the paucity of good quality research into the causes and possible prevention of preterm birth.

‘Prematurity’ is not a single disease but the culmination of diverse disorders. The socioeconomic factors associated with different patterns of preterm birth require proper appraisal. For example, does the well known social class bias apply equally to mothers with spontaneous onset of preterm labour with intact membranes, and to those with premature rupture of membranes? The notion that ‘prematurity’ might be prevented by approaches such as preconception counselling, regular attendance at the antenatal clinic, and eating a good [sic] diet continues to be promoted in the virtual absence of any convincing evidence. Informed and good quality preventive research is a high priority if we are to stem perinatal nemesis.

Paradoxically, better and more antenatal care leads to more preterm births by early recognition of the compromised fetus with the option of elective preterm delivery—an option created by paediatricians as a result of the better outcome for preterm babies. The problem of diagnosing fetal growth retardation has been replaced by an even greater challenge to obstetricians—that of the appropriate timing of elective preterm delivery, based on recognition of the threat of antepartum asphyxia. Exciting approaches to the diagnosis of fetal compromise include uteroplacental and umbilical artery flow velocity measurements, and cordocentesis with measurement of blood gases and pH. There is little doubt that we are coming closer to what might turn out to be a key issue, namely the early recognition and possibly protection of the fetal brain from hypoxic/ischaemic and nutritional insults.

The introduction of intrapartum cardiotocography and fetal scalp pH monitoring held the promise of presenting the paediatrician with a baby ‘in the best possible condition’. Yet the asphyxiated term baby is not a thing of the past and intrapartum asphyxia can occur unpredictably in spite of scrupulous monitoring. One cause for concern is when, in hindsight, it is considered that the results of monitoring were misinterpreted by the obstetric or midwifery staff. In these cases one sometimes wonders (again with hindsight) whether apparently normal findings on monitoring might have led to complacency in circumstances where the midwife in the pre-technology era would have called for intervention. We argue that this is not an example of technological nemesis, but it should alert us to the need for proper education and training of all staff who work with new technologies whether in the delivery unit or the neonatal intensive care ward.

Advances in molecular biology in terms of the ‘new genetics’ have opened up avenues for more precise genetic counselling, early antenatal diagnosis, and even treatment of certain genetically determined disorders. Yet we must caution against raising public expectations when in reality so many of the lethal and disabling congenital malformations seen in daily practice occur sporadically, are of uncertain aetiology, and do not currently benefit from genetic innovations. It was inevitable that ultrasound imaging in pregnancy would advance beyond the stage of diagnosing growth retardation and ‘pregnancy dating’ and extend into the diagnosis of congenital abnormalities. Often an abnormality is discovered late in pregnancy, beyond the time when
the pregnancy can be terminated, or the abnormality might not warrant termination of the fetus's life. We accept that sometimes prior warning of certain abnormalities might dictate where the mother should be delivered (if neonatal surgery is likely) or it might suggest the need for further investigations after birth (in renal tract abnormalities). Yet other women who previously enjoyed their pregnancies, blissfully unaware that they were carrying babies with abnormalities of some sort, might now suffer weeks of sorrow and apprehension with no real advantage to the babies over allowing the diagnosis to become apparent naturally after birth. We must not allow parents to suffer the wrath of nemesis. Instead, whenever we offer an ultrasound service with the potential of revealing fetal malformations we must ensure that an obstetrician, paediatrician, or paediatric surgeon is available at short notice to explain the implications of any abnormality in a sympathetic way.

Perinatal nemesis shows itself in diverse ways. The potential for litigation has increased in line with improvements in perinatal care. We are being challenged with ethical dilemmas for which we have had no formal training. We have created a problem of resources in terms of medical and nursing staff, equipment and support services, with each development in perinatal care. Yet we are not so nihilistic as to believe that the story will continue to unfold with one problem replacing another. Perinatal medicine is a comparatively new specialty feeling its way, and it is only natural that here and there nemesis will rain down. One purpose of the Fetal and Neonatal Edition is to encourage a multidisciplinary approach to the specialty and promote good research. It might even help to ward off perinatal nemesis.

Reference