

Editorial

The paediatric patient

Increasing specialization within anaesthesia has led to concern in some quarters about how paediatric anaesthesia should be organized: what training and continuing experience are desirable for those delivering anaesthetic services to children, especially in general hospitals; how should emergencies be dealt with; and how should paediatric intensive care services be delivered? It was partly for this reason that the Royal College of Anaesthetists in the UK devoted its 1997 Anniversary Forum to 'The paediatric patient'; the presentations made at that meeting form the core of this postgraduate issue.

Three-quarters of a century have passed since Magill, aware of the special anaesthetic needs of children, was invited to the Hospital for Sick Children in London to demonstrate the use of a double-lumen insufflation catheter during cleft palate surgery, a device which he later described in the medical press.¹ Despite its obvious disadvantages by today's standards, this must have provided greatly improved operating conditions for the surgeon and probably increased safety for the child.

By the 1930s, Philip Ayre had realized that although the introduction of 'to and fro' breathing had been a significant advance over insufflation techniques, the breathing systems used were totally unsuitable for children. His T-piece, which he described in 1937, was one of the most significant landmarks in the history of paediatric anaesthesia,² and one which, modified by Jackson Rees in 1950, has survived until the present day.³ The availability of the new, more expensive inhalation agents, sevoflurane and desflurane, reviewed in this issue,⁴ has brought about a re-evaluation of the role of the T-piece in paediatric anaesthesia compared with the more economical and improved circle systems. These new agents have also renewed interest in the use of low-flow anaesthesia in children: Meakin discusses the advantages and disadvantages of this technique.⁵ Despite the reluctance of some manufacturers to consider the special needs of children when designing new pieces of equipment, there have been many developments in paediatric equipment and monitoring in recent years, summarized in the article by Booker.⁶ These have enabled anaesthetists to apply the same rigorous standards to the safe delivery of anaesthesia in paediatric as in adult practice.

The introduction of neuromuscular blocking drugs into anaesthetic practice had as much impact on paediatric as on adult anaesthesia, even though it was not until the 1960s that their widespread use in children, including neonates, was accepted. The range of blockers now available is so wide that anaesthetists may feel they have to find their way through a maze of options when choosing one for a particular child. This maze is skilfully negotiated for us by Fisher.⁷

The former natural conservatism of anaesthetists to use new drugs and techniques in children was perhaps understandable, and advances in paediatric anaesthesia have traditionally tended to flow from adult practice rather than lead it. The use of propofol, discussed by Aun, is an obvious example.⁸ Nevertheless, there have been considerable advances, and these have led to the worldwide recognition of paediatric anaesthesia as a major sub-specialty in its own right. The founding of the Association of Paediatric Anaesthetists of Great Britain and Ireland in 1973 (exactly 50 yr after Magill demonstrated his insufflation catheter) facilitated the exchange of ideas between those interested in developing the subject further, and was the forerunner of similar specialist societies in many other countries. The introduction of the Internet has given further impetus to international co-operation, and e-mail discussion groups are now firmly established in both paediatric anaesthesia and intensive care. Paediatric anaesthetists have become less conservative, and have embraced some developments, such as the introduction of acute pain teams, more readily than anaesthetists dealing with adults. This development and the use of local and regional blocks for intraoperative and postoperative pain management have been arguably the most important advances in the anaesthetic management of children in recent years, and both receive individual coverage. Morton⁹ discusses the general principles of the prevention, assessment and control of pain, while Kester Brown, Eyres and McDougall describe the common, and some of the less common, local and regional blocks.¹⁰ Unfortunately, although paediatric anaesthesia carries a relatively low morbidity and mortality, the problem of postoperative nausea and vomiting remains significant, especially for the older child, and may even have been increased by the greater use

of opioid analgesic drugs. Important developments in the avoidance and management of this distressing complication are covered by Rose and Watcha.¹¹

There has been an increased awareness of the importance of improving communications between anaesthetists on the one hand and children and their families on the other. Coté points out that the preoperative visit provides an opportunity not only for medical assessment, as summarized by Black,¹² but also to establish a rapport with the family, to explain the procedures which anaesthesia involves, to discuss the options for pain relief and to answer any remaining questions.¹³ The move towards undertaking an increasing amount of surgery on a day-case basis provides new challenges for preoperative assessment, which some have tried to resolve by the introduction of preoperative assessment clinics. The challenges and opportunities encountered in establishing one of the first paediatric day-case units in the UK are described by Brennan.¹⁴

Despite this increasing specialization, it is clear that those working in general hospitals must retain the core knowledge and skills required to provide immediate care to children presenting at their nearest hospital with acute life-threatening problems. Trauma remains the commonest cause of death in young children, and the absence of a formal trauma management system in the UK puts even more responsibility on the local team. The important differences in the management of trauma in children are emphasized by Dykes.¹⁵ All anaesthetists must also be competent in paediatric life-support techniques, and it is encouraging to learn of increasing international collaboration in the production of guidelines in this area for infants and children, including recommendations for resuscitation of babies at birth. The recently published statements by the International Liaison Committee on Resuscitation (ILCOR), together with the latest revision of the European paediatric life support protocols, are explained by Zideman,¹⁶ while Bennett gives a comprehensive summary of paediatric intensive care issues.¹⁷

Although there is an increasing amount of laboratory-based research being undertaken in the fields of paediatric anaesthesia, pain management and critical care medicine, the subject remains an essentially practical one, and this is reflected in many of the articles in the issue. The authors come from several different countries and their style and approach reflect the variations in paediatric anaesthetic

practice around the world. Much of the content, however, is becoming core knowledge in the increasingly global village in which we now live.

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