Hospital Topics

Legal Hazards of Surgical Paediatric Practice*

R. B. ZACHARY

British Medical Journal, 1972, 2, 516–518

Some of the common legal hazards of surgery are more likely to arise in the paediatric age group, whereas others occur less frequently than in the surgery of adults. There can be few surgeons who have not had brought to their attention time and time again the risks of operating on the wrong patient or the wrong side or of doing the wrong operation, and the specific advice issued by the Medical Defence Union has been widely publicized in many hospitals in Britain. The difficulties of ensuring that the right patient comes to the operating theatre are somewhat greater in the case of small children who are unable to give to the porter or the anaesthetist their correct names. It is, of course, for this reason that the name band has been widely adopted, and if it is put on correctly it is exceedingly difficult for the child himself or for another child to take it off. If it is put on too slackly, however, it is not unknown for another inquisitive child in the ward to pull off the name band, substitute his own, and, to add to the confusion, change the bedboards around.

An adult, unless heavily sedated, can often indicate what his problem is and which side needs doing, but extra precautions are needed in the case of a child who is unable to give this information. On the other hand, the paediatric surgeon is less at risk with regard to leaving implements and swabs inside the abdomen, for in most surgery of infancy there is not enough room for an instrument. Moreover, surgical technique must not be so crude as to allow large quantities of blood to soak into a swab and so make it more susceptible to loss.

Operating Lists

Serious mistakes can arise from slipshod methods of sending for patients for the operating theatre. Admittedly most theatres will have a typed list ready on the day of operation, but in the practice of paediatric surgery this may bear little resemblance to the final order of operating, for a child may have to be put off because he is pyrexial or has come out in a rash or because a ward orderly is known to have given him dinner. It is often necessary to alter the list on the morning of operation or even during the operations and remove from the list a child who is ill and substitute one who is well. How is it possible to avoid mistakes? The following method is used at the Sheffield Children's Hospital.[1]

On an already prepared sheet with six spaces the names of the patients, the number, ward, etc. are typed by the secretary. Copies go to the ward and to the anaesthetist, and the bottom copy is on thick paper with perforations between each case. These perforated tickets are separated from each other by the theatre sister and placed in order on a "hymn board" in the anaesthetic room. The theatre sister or deputy hands the porter the ticket for the next case; he goes to the ward and receives the patient from the ward sister, who signs that it is the patient requested. The anaesthetist must see this ticket before induction.

When the operation is over the theatre sister also signs the form, giving only the operation performed and the initial nursing information, and the child goes back to the ward. If the list order is to be altered it is done by the sister-in-charge, who moves the tickets from one part of the board to another. If another case or an emergency is to be included a tear-off ticket from a set of blanks kept in the theatre office is added to the tickets on the hymn board. No ward sister will deliver a patient unless she receives a ticket except in dire emergency. This method has relieved anxiety among surgeons, sisters, and porters.

This has been dealt with at some length because it is a particularly dangerous hazard in children.

Vomiting during induction of anaesthesia is still a risk in emergency surgery, but in the field of paediatric surgery it may arise in list cases. Occasionally one may hear from another child that the patient has eaten, but there must be times when the patient satisfies his thirst or hunger and no one knows until he vomits during induction. Owing to a shortage of hospital beds many minor procedures are done as day cases, and here we have to rely on the parents' information about the time of the last meal, which may be inaccurate. Most of the troubles with vomiting during induction arise in these day cases, and from time to time hospitals have abandoned the practice altogether, only to be forced back to it because of the shortage of beds.

The only way to be fairly certain that the child's stomach is empty is to admit him about three hours before the operation, but this means restricting day cases to the afternoon lists—a practice which brings its own hazards in the child going home a relatively short time after operation.

Errors in Diagnosis

Apart from these ordinary medicolegal aspects of surgery there are several different types of error or omission which might be the subject of litigation. The first group comes under the heading of diagnostic errors. The most common example of failure to recognize disease is appendicitis in the small child. All too often the doctor will wait for the classical symptoms and signs of the disease, not realizing that a crying child of 3 or 4 years of age can become desperately ill with appendicitis and show no other symptoms than anorexia, vomiting, and pyrexia. Many doctors still fail to realize that appendicitis can and does occur in young children and even in infants, and if the patient has abdominal symptoms of any sort appendicitis should be seriously considered no matter what the age.

Intussusception is another well-known paediatric surgical condition in which, unfortunately, the classical symptoms and signs have been so emphasized in general medical teaching that in the absence of these symptoms serious delay may occur and the child may die in spite of treatment. It is *not* necessary for the child to have spasmodic abdominal pain, vomiting, and the passage of blood per rectum for the diagnosis of intussusception. Indeed, blood is passed per rectum in probably fewer than half of the cases before admission to hospital.

*From a paper presented to the Council of the Medical Defence Union on 19 May 1971.

Subdepartment of Paediatric Surgery, University of Sheffield
R. B. ZACHARY, F.R.C.S., Honorary Director

Another major error is the failure to realize that a child with intussusception may pass several loose stools and may be sent to an isolation hospital where a paediatrician may not always see him at once. Fortunately more and more paediatricians are being appointed to these hospitals, but it would be a far more sensible thing if the child were brought to a paediatric isolation wing of a general hospital.

How far can failure to recognize disease be regarded as negligence? Fortunately seldom, but there are times when gross incompetence in diagnosis is tantamount to negligence and the parents could well claim that their family doctor did not exercise the skill and care normally expected of a general practitioner in the diagnosis of this surgical condition in children.

Torsion of testis is not an immediately life-threatening condition but unless it is treated early the effects can be disastrous. The most common mistake is for the doctor to diagnose mumps, completely failing to realize that mumps orchitis must be excessively rare before puberty whereas torsion of testis between the ages of 5 and 10 is not uncommon. A child had a swelling of the left side of the scrotum and the family doctor diagnosed mumps orchitis as there were some cases of mumps in the district. Operation showed a twisted testis, which was black. An important contributing factor to this complication was acknowledged by the doctor to be his mistaken and even impossible diagnosis.

The surgeon can be equally at fault in operating on a child for abdominal pain, either of the acute or recurrent variety, assuming that the child had appendicitis when a little thought would have ruled out this diagnosis. Removal of a normal appendix is not in itself a serious operation, although serious complications may occasionally arise immediately afterwards and late complications such as intestinal obstruction are not unknown.

Some surgical firms have special names for the normal appendix that they remove, so that the mistake in diagnosis is not obvious to the parents. If a complaint does arise the surgeon might be criticized for withholding the information that the appendix had been normal.

A relatively minor but far more common mistake is to diagnose recurrent balanitis and advise circumcision. In 9 out of 10 cases this could not possibly be balanitis since the inflammation is limited to the end of the prepuce and there is no sign of any pus underneath it. The condition is ammonia dermatitis of the prepuce and is a strong contraindication to operation, for there is considerable risk of meatal ulceration and meatal stenosis. The surgeon is not only operating for a disease which is not present but he is directly responsible for further trouble and pain for these children.

Circumcision is also still advocated and performed for phimosis, but such non-retractability of the prepuce in an infant is normal. It is not a disease to be treated.

Operating Unnecessarily

This group of cases includes those in which the correct diagnosis has been made but the conditions are self-limiting and self-correcting. Umbilical hernia is a good example—a very common lesion in babies but one which most paediatricians know will settle down spontaneously in a few years. Yet if these patients are referred at 1 or 2 years of age directly to surgeons many will advocate operation. Admittedly they will probably cure the baby (some are made worse when the standard operation for adults is used) but if some mischance arises the surgeon will be open to criticism for not knowing the operation was unnecessary. Even general reading such as in the *National Geographic Magazine* would make this clear. One might see among a group of villagers in the heart of Africa a number of small children with large umbilical hernias but no hernias among the adults, who fortunately have been spared this unnecessary surgery and have been spontaneously cured.

Another example is the wholesale removal of large tonsils in children—tonsils which pass through a phase of their natural history and will later settle down. There are enough legal hazards in justifiable tonsillectomy as it is without introducing the extra hazard that the operation was not necessary at all.

Anomalies of development in children may present in a way that may simulate a tumour in adults. Haemangioma is very common in children, but in the vast majority of cases it is self-limiting. It will increase perhaps for a few months and then gradually settle down over a year or two. Not only will excision be unnecessary but the result of spontaneous resolution will produce a better appearance than operation, even in severe cases, and surgeons would in most cases find it hard to justify their decision to excise such a lesion.

It is in this category of cases that one must be able to refute another criticism—namely, that the purpose of operating is the surgeon's financial benefit. If the incidence of these unnecessary operations is higher in private practice than in hospital practice one should not be surprised at the inference that others draw—that the purpose of treatment was not primarily for the benefit of the patient.

Operating beyond the limits of experience

All surgeons at some time in their lives have to explore a new field, either in an emergency or in a deliberate attempt to master the difficulties and extend their ability to help patients. If a surgeon elects to undertake an operation of which he has little experience, however, he puts himself forward as possessing the necessary competence to perform the operation. If something goes wrong he may be open to the criticism that he did not have this skill, should not have offered to operate, and should have sought the help of someone else. For example, most surgeons have had to open a skull in an emergency, but if they elect to remove a brain tumour once a year they are implying that they possess the necessary skills to do so, and if this skill falls short of standard neurosurgical practice they would be open to criticism.

In the field of paediatric surgery special techniques of operation and management are now recognized, so that a general surgeon who undertakes the surgery of the newborn when paediatric surgical facilities are available should be able to justify his role by his training, his experience, or his results.

A newborn infant had an imperforate anus with a fistula from the rectum to the urethra. At operation elsewhere his rectum was pulled down from below without closing the fistula, perhaps without realizing that a fistula is always present. Moreover, the rectum was pulled down behind the puborectalis sling, thus precluding any possibility of control. The rectum retracted, a colostomy was performed which did not work well, and he arrived with faeces coming from the urethra, urine coming from the rectum, and faecal abscesses in the perineum. Yet expert help had been available within an hour's journey.

Even operations which are relatively straightforward in adults may hold risks not fully appreciated when performed on small children. Inguinal hernia in childhood needs an operation because it does not heal completely and permanently and also because of the risk of incarceration. Most surgeons know that a hernia in a child simply needs dissection and ligation of the processus vaginalis, and because, in principle, this is a simple procedure the operation on a child will often be delegated to a junior surgeon.

Yet in inexperienced hands there is the possibility of accidental damage in this type of operation. Some of these surgical errors will never be obvious—for example, cutting the vas deferens—but others will produce obvious effects which may be seen by the parents and could be the cause of litigation. If the testis is no longer in the scrotum postoperatively it may be because the vessels have been damaged, leading to testicular atrophy; or the testis may not have been replaced in the scrotum

at the end of operation, and a further procedure will be needed. If done within a few days there may be no permanent harm, but if left for more than a month it may be very difficult to bring the testis down without the risk of damage.

Reference has already been made to the failure to recognize torsion of testis so that operation may be delayed. An important problem arises for the surgeon himself at this stage. If the testis appears black should the testis be removed or not? It became clear to most paediatric surgeons 10 to 15 years ago that if the testis is removed it will often be shown to have a considerable amount of viable tissue underneath the haemorrhagic surface, so that some function will probably persist. It is therefore a serious mistake to remove the testis after it has been untwisted, because one may be removing this important viable tissue.

An even more serious mistake is illustrated in the following case. A child of 10 suffered torsion of testis and was admitted to a local hospital. At operation the testis appeared black and was excised. He remained in hospital and two days after operation complained of pain in the other testis, but nothing was done about this until 24 hours later, when at operation this testis was also found to have twisted. It was untwisted and replaced in the scrotum.

He now has no testis on one side and an atrophic testis on the other. There are three serious mistakes here which altogether could bring a charge of negligence. The first is the removal of a twisted testis after reduction, the second is the failure to fix the opposite testis at the same operation, and the third is the failure to recognize the disease in the opposite testis and deal with the torsion at once.

Another congenital anomaly which is regarded as typical in the paediatric age group is thyroglossal cyst. Diagnosis is easy and surgical cure is not difficult if carried out as in standard surgical practice, including removal of the body of the hyoid bone. There is the risk, however, that the swelling contains the sum total of the child's thyroid tissue. Radioactive scanning of the thyroid gland removes all possibility of error and may now be regarded as an essential precaution before operation unless the surgeon is sure he can feel the thyroid gland below the level of the cyst.

Consent to Operation

Some of the most important decisions the paediatric surgeon has to make concern the genitalia. In severe hypospadias a buccal smear for chromatin is essential if one is to avoid error and the risk of an action for negligence for undertaking the wrong operation—that is, repairing a hypospadias in a girl or removing the phallus in a boy. The most common source of error is the adrenogenital syndrome in girls, but the precise diagnosis of this condition is current paediatric practice and failure to have the appropriate investigations done would be a serious lapse from accepted standards of care.

The relatively far more complicated intersex problems need help from experts in the field of human genetics, and surgery should not be undertaken without full knowledge of the chromosomal pattern. Even so, full discussion with the parents is essential before proceeding with surgery. A child who had an ovary, uterus, and vagina also had a large phallus and a testis on the other side. It was decided that surgery could make a better girl than a boy, and the testis and phallus were removed, but such major decisions should not be made without the fullest consultation with the parents and their explicit consent.

Consent for operation is not a simple matter. If the parents firmly and deliberately withhold consent for operation one cannot undertake even life-saving surgery. Yet the wishes of parents are not always paramount in the care of children and they have been overruled in the case of blood transfusions. Is there, indeed, a fundamental difference between transfusion and an essential operation?

The paediatric surgeon, however, is in some difficulty in obtaining written consent for follow-up surgery. For example, in oesophageal atresia and imperforate anus there may be a primary thoracotomy, but later gastrostomy, colostomy, and cervical oesophagostomy may all be performed on different days with the parents many miles away. Consent for the treatment of a congenital anomaly implies the consent for all the procedures necessary to correct the anomaly. Nursing staff are, perhaps rightly, more stringent in their demands for written consent and have sometimes insisted on written consent being brought by a police escort in the middle of the night.

Trust in the Surgeon

Following the advice of the Medical Defence Union a more precise consent form is now used, with a phrase that "the nature and purpose of the operation has been explained to the parents" (the wording "nature and effect," which had been suggested, was amended because surgeons are not so confident that they can predict the effect of their work). Yet consent is often more a formal consent than a consent based on full knowledge; it is a consent based on the trust that the surgeon will do what he thinks is best for the child. It is, however, possible for complaints to arise on this score, either that the patient has not been operated on or that he has—complaints that are often based on a misunderstanding of the purpose of surgery.

A father wrote a letter to a management committee, intending to follow this up with legal action, complaining that his child with spina bifida had not been sent for immediate operation and had thereby suffered unnecessary handicap. He withdrew the complaint when it was explained to him that although some surgeons considered that immediate operation was advisable because deterioration sometimes occurs in unoperated children other clinicians were not of the same opinion. It may be that some might be tempted actively to accomplish the death of these severely handicapped children and thereby lay themselves open to a criminal rather than a civil action, but there is little doubt that the Medical Defence Union would wish its members to weigh carefully such actions—and to weigh their words in describing them.

Surgeons have been criticized for operating on these and other children with severe congenital malformations. This criticism is based on the belief that without operation the child would die in the neonatal period. Yet many of these cases do not come into the group in which the anomaly is certainly lethal.

The seriousness of the condition for which operation is performed has a bearing on an action which could reasonably be brought for negligence. A child had an extra limb sticking out of the middle of his back, and during operation he received a diathermy burn on the calf causing a wound about 1 in. (2·5 cm) in diameter. Legal action was withdrawn after the production of photographs of the child before and after operation, which clearly showed that the overall condition of the child was much better after operation in spite of the complication.

The first steps to legal action are often criticism and complaint, usually made to junior staff and only then to the hospital secretary at an official level. Much trouble could be avoided if medical junior staff and ward sisters told their consultants at once of any such complaints about treatment. Apart from very obvious cases of gross neglect a truthful explanation at an early stage will usually satisfy parents in their natural anxiety, but one must not only say what is true but say it in such a way that what is understood is true.

If parents can see that the surgeon shows a real concern for their child as a person and is clearly doing his best to help the child they will be far more likely to accept mistakes and failure; but the surgeon who receives such trust from parents owes them the duty of eternal vigilance, which is the price of safe surgery.

Reference

[1] Wilson, A. M., *Lancet*, 1971, 2, 596.