Who Will Deliver Our Grandchildren?
Implications of Cerebral Palsy Litigation

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It has never been safer to have a baby and never more dangerous to be an obstetrician. In a recent survey, 76% of obstetricians in the United States reported having faced litigation at some point in their careers—most often for having allegedly caused cerebral palsy (CP).[1] Similar trends have been seen in Australia, where the 2% of physicians who are obstetricians are now associated with 18% of the cost of all medical indemnity claims.[2,3] The median award for "medical negligence in childbirth cases" is \$2.3 million.[4] Consequently, obstetricians pay some of the highest premiums for malpractice insurance—up to \$200 000 per year in some states. These figures might seem to indicate an epidemic of errors in the delivery room, except that the common assumption that obstetric caregivers can prevent CP by actions taken during labor and delivery is based largely on erroneous assumptions and obsolete science. Despite this, in the United States, 60% of malpractice insurance premiums paid by obstetricians cover lawsuits for alleged birth-related CP.[5] Less than 10% of plaintiffs in CP cases receive any compensation, and more than 60% of obstetric premiums are spent on the legal process.[5]

In CP trials, the plaintiff's expert witness often testifies that the damage to the child's brain was caused by oxygen deprivation during delivery and that if the defendant had performed a cesarean delivery, or performed a cesarean delivery earlier, the child would have escaped harm. That was once the prevailing view of how CP occurred. Well-designed studies, however, have shown that lack of oxygen causes only a small proportion of CP cases,[6,7] and despite serious efforts, CP due to birth asphyxia has not been shown to be preventable.[8] Antenatal risk factors for CP under current investigation are indicators of viral infection, fetal thrombophilias, and polymorphisms of genes regulating inflammation, coagulation, and endothelial activation.[9,10] Known risk factors for CP include chorioamnionitis, death of a co-twin in utero, arterial ischemic stroke in the fetus or newborn, an umbilical cord wrapped tightly around the neck of the fetus, and premature birth.[11] In none of these problems has obstetric intervention been demonstrated to reduce the risk of CP, largely because useful and specific indicators of intrauterine events do not yet exist. In most cases of CP, the cause cannot be determined. Litigation based on assumptions to the contrary, there is no evidence that immediate delivery upon diagnosis of chorioamnionitis or a nonreassuring fetal heart rate pattern prevents or ameliorates CP.[8,12,13] Despite the dramatic account of legal action related to severe brain damage in a survivor of co-twin death,[14] there is no evidence that rapid delivery of the survivor prevents CP.[15]

Electronic fetal monitoring (EFM) during labor was introduced in the 1970s without scientific validation, in the belief that EFM would allow birth attendants to identify and "rescue" a baby in distress, hopefully thereby preventing further damage. Many lawsuits relating to CP center on interpretation of EFM patterns and whether or not prompt action was taken based on these tracings.[16] Evidence of good medical quality, based on randomized controlled trials, is available concerning whether actions based on EFM tracings are effective in preventing CP: according to a Cochrane Collaborative systematic review of relevant randomized clinical trials, EFM as compared with monitoring by intermittent auscultation is associated with no decrease in perinatal deaths, no fewer admissions to neonatal intensive care units, no fewer Apgar scores below 7 or below 4, and no less incidence of CP.[17]

All randomized trials of EFM to date have shown that such monitoring is associated with a higher rate of interventions into the process of birth and, in the United States, with an increased rate of surgical delivery.[17] In 10 developed countries including the United States, despite a 5-fold increase in cesarean deliveries over recent decades driven in part by the use of fetal monitoring, the incidence of CP has remained steady at about 1 in 500 births, currently around

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9750 a year in the United States, with similar rates around the world.[18] Thus, action based on interpretation of EFM tracings, which are notoriously difficult to interpret reliably and with validity, has not led to a decreased rate of CP.

Cesarean deliveries performed during active labor, as is commonly the case with nonreassuring EFM findings, are associated with increased risk to the mother. Hemorrhage, infection, thromboembolism, or other major intraoperative complications occur in about 2% of such deliveries, and postpartum complications are much more common.[19] Cesarean delivery based on EFM findings is not harmless and has not been shown to prevent CP. According to Clark and Hankins,[18] "Operative intervention based on EFM monitoring has probably done more harm than good."

While some causes of CP are known, most are still unknown, not foreseeable before birth, and not currently preventable. Despite hopes and good intentions at the time of its introduction, EFM has unfortunately not altered that situation. Birth can be a hazardous journey, and EFM does not help.[20] However, in cases with adverse outcome, expert opinion can usually be found that will retrospectively identify an abnormality in EFM tracings.[21]

Judges, jurors, and most plaintiffs in CP lawsuits may be unaware of the fallibility of the high-tech gadgetry of modern obstetrics, including EFM, and may not realize that these devices cannot reliably predict or influence obstetric outcome. The plaintiff's attorney has the double advantage of the undeserved suffering by a child and family and a simple, seemingly reasonable explanation. That may not be enough for outright victory, but it is a potent weapon of intimidation. The result is that 86% of obstetrics malpractice claims are settled out of court, half of them with payment,[1] at great cost to the profession, to insurers, and to society at large.

Plaintiffs often see little of the settlement after the legal fees are paid. In addition, patients' access to obstetricians is decreasing. For example, 15% of surveyed obstetricians said they had left the specialty due to litigation, and 22% had greatly reduced their obstetric practice.[1] Young obstetricians may avoid entering practice in states with high malpractice premiums, reducing patients' access to care.[22] In Pennsylvania, which is a high-premium state, one third of residents in obstetrics planned to leave the state, mostly because of malpractice costs and the "litigation lottery."[23] As the number of practitioners shrinks, many maternity hospitals are working far beyond capacity; others are simply shutting down.[24] The difficult working hours and demanding lifestyle of an obstetrician have always been an issue in recruitment to the specialty, but litigation fears and costs now dominate the reasons for obstetricians avoiding or retiring from obstetric practice.

The plight of obstetrics is one of the most alarming aspects of the broader crisis over malpractice litigation,[25] but there is hope for a solution. A few bold steps would go far, and they would be particularly applicable to the medicolegal problem of determining CP causation.

Better Self-Policing by the Medical Profession

The practice of bad medicine should be appropriately monitored and disciplined. Hospitals should institute procedures to investigate the cause whenever a newborn shows signs of brain damage. After anesthesiology departments took such measures a few years ago, adverse events and malpractice claims dropped substantially.[26] Peer review audit of all neonatal seizures in term infants might be one constructive step. Hospitals should be vigilant about patient safety and risk management protocols, including ensuring efficient communication between all staff at change of shifts, close supervision of junior staff, and early counseling of parents by those who are involved with the obstetric care. While there is no proven intrapartum policy that can reduce the risk of CP, communication can reduce other adverse outcomes and misunderstanding.

Establishment of Special Health Courts

Malpractice suits, obstetric or other, should be handled by medically trained judges with the authority to consult neutral experts.[27] The point is not to shield bad doctors from legal consequences but to ensure that judgments are based on sound science rather than on compelling theatrics. Special courts already exist in such areas as taxes, workers' compensation, and labor issues. A Harris poll indicates that 62% of those in the United States would support the creation of such courts to handle medical malpractice claims as well.[28] These courts should pay consistent attention to medical quality of evidence, worrying less about the expertise of witnesses, which is hard to assess as it applies to the specifics of a given case, and more about the medical quality of the evidence they provide.

Policing by the Medical Profession of Those Offering Expert Opinion

It should be a requirement that professional colleges train, register, and audit those offering medicolegal opinion. Their opinions should be open to peer review and to objection if opinions are not evidence-based or are impractical, dangerous, or extreme. College members not registered to give opinion or who give rogue opinions not supported by the college should receive a warning, with loss of college membership if they are found guilty again. Some colleges have adopted this system.[29] In CP litigation, any expert asserting that a CP outcome was preventable, eg, by earlier delivery, should have to produce evidence of good medical quality that the advocated policy has reduced rates of CP. To date, such evidence exists for very few available interventions.

Dispute Resolution

At present, litigation is the only recourse for families concerned that medical error might have caused a newborn's health problems. Parents may be less interested in a monetary award, however, than in ensuring that any mistakes are acknowledged and dealt with, whether through improved procedures or through professional penalties. Fami-

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lies should have the option of resolving disputes through conferences with the suspect physicians, mediated by an independent counselor with relevant expertise.[30]

Creation of a No-Fault System for Resolving Disputes Over Birth Outcomes

A no-fault system has been proposed to compensate children with major neurologic disabilities.[31] This could involve an automatic federal- or state-funded pension for children whose parents do not wish to initiate civil litigation. Such a system could be far more efficient and fair than the current malpractice system.

Better Education of the Public

Hospitals and professional associations should launch a campaign to ensure that prospective parents know the odds: despite all medical advances, 0.7% of newborns in the United States die shortly after birth,[32] 3% have major structural defects,[33] and 0.2% develop CP.[34]

Obstetrics has always been among the most grueling specialties, owing to its unpredictable hours and high emotional stakes, but the reward—bringing a healthy baby into the world—has generally made up for the pain. By altering that equation, the litigation explosion is raising a disturbing question: Who will deliver our grandchildren?

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