

**ASA closed claims in obstetrics: lessons learned**  
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January 19, 1847, marked the beginning of a new era and the origin of the subspecialty of obstetric anesthesia. On that date, James Young Simpson administered ether for the delivery of an infant in an obstetric patient who had a deformed pelvis. In that era physicians possessed no compulsion to relieve the pain of childbirth, because they believed pain to be a normal component of the natural birthing process; in fact, they often viewed the agonies of childbirth as an indicator of safety. This, in addition to opposition by the early church, slowed acceptance of obstetrical anesthesia by the medical community. It was not until nearly a decade later that opposition to labor analgesia began to fade as the result of John Snow's administration of chloroform to Victoria, Queen of England, for childbirth. With the Queen's approval of "that blessed chloroform," pain relief not only became acceptable but also respectable. However, from its inception it was recognized that obstetrical anesthesia carried with it a considerable risk of complications, many of which could be devastating. Maternal aspiration and death were not infrequent cohabitators of early obstetrical anesthetics.

Obstetrics and anesthesiology taken separately are generally considered to be high-risk medico-legal liability specialties. Therefore, it is logical to assume that obstetric anesthesia might be a particularly high-risk subspecialty. This perception has been reinforced by infrequent but well-publicized cases, all involving very large monetary awards. As the medical liability crisis has evolved to its current dizzying heights, especially in obstetrics as well as anesthesiology, the medical providers have paid greater attention to the quality of care provided to obstetric patients. This problem has been complicated further by a second crisis, the "crisis of affordability". In the early 1980s, professional liability insurance premiums began to skyrocket. Anesthesiologists were perceived by the insurance companies to be an especially high-risk group, as they represented only 3% of the insured physicians but accounted for 11% of the total dollars paid for patient injuries.

To improve the quality of anesthesia care for obstetric patients, practitioners have begun to take every opportunity to identify and understand the risks incurred when providing obstetrical anesthesia. That is, attempts must be made to identify the accepted consequences of labor and delivery analgesia/anesthesia as well to identify true complications as they occur along with their associated causes.

A number of sources can provide information for the study of complications, but when reviewing epidemiological data one must remember that data collected from individual sites may not be applicable to the practice of anesthesia as a whole. The data may come from centers where the high standards of practice, skill of the individuals, and the patient population served may be quite unique to that institution and not reflect the practice of anesthesia in general. Certainly the proportion of trainee to fully trained staff has a dramatic impact on the incidence of complications. Moreover, complication rates tend to rise and fall as practice techniques change and improve. Methods of data collection also influence the incidence of complications. Recollections are unreliable. Poor documentation and lack of recording of even the most basic information by anesthesiologists make data collection more difficult. One must appreciate how difficult it is to discover the frequency of complications when the denominator is unknown. To obtain meaningful information about complication rates, one must rely on carefully designed prospective audits where attention to completeness is foremost—a rare commodity in clinical studies.

To acquire meaningful morbidity and mortality statistics, a great variety of studies have been undertaken over the past half century. Some studies have been prospective, others retrospective, some voluntary, some compulsory in their reporting requirements, and finally some all-inclusive in their entrance requirements whereas others have been highly selective. However, consistent among all these reports was the lack of uniform definition of the specific events that occurred as well as a lack of consistency in their perioperative timing of the reported events. For the most part, reports to date have provided a mélange of semi-scientific data attempting to approximate the incidences of certain outcomes of anesthesia—outcomes often described as errors, misadventures, mishaps, accidents, catastrophic outcomes, or simply mortality. It is very difficult to study morbidity and mortality statistics either prospectively or by retrospective medical chart

review. Even though the data may be collected from multiple centers, the results may not reach statistical significance because anesthetic-related injury is a relatively rare occurrence.

### **Mortality data**

*The Report on Confidential Enquiries into Maternal Mortality in England and Wales* provides us with one of the most comprehensive and accurate sources of information concerning maternal mortality [1]. These reports systematically appraise the quality of obstetrical care in England and Wales. The original enquiries began in 1928. Since 1952 their reports are compiled in 3-year epochs.

Although maternal mortality, defined as the number of maternal deaths per 100,000 (or 10,000) live births, has decreased dramatically in the last 50 years, deaths among pregnant women continue to be an important public health concern. The most recent comprehensive data on maternal mortality in the United States are from Berg et al [2]. Data were compiled from the Centers for Disease Control and Prevention's pregnancy-related Mortality Surveillance system. The leading causes of pregnancy-related death are now hemorrhage, embolism, and hypertensive disorders. Death due to anesthesia is the sixth leading cause of pregnancy-related mortality in the United States (Fig. 1). Women continue to experience preventable pregnancy-related deaths, and certain groups of women continue to be at greater risk of death. Older parturients and black parturients, who were at increased risk of pregnancy-related death 50 years ago still remain at greater risk of death. For example, currently the cause-specific pregnancy-mortality ratio due to cardiomyopathy is 5.9 times greater in black women than this ratio in white women, and the mortality due to anesthesia is 6.6 times greater for black women [2]. The maternal mortality in the United States was reported as 83 per 100,000 live births in 1950, but by 1984 it had declined to 7.8 per 100,000 [3]. The mortality rate continued to make a small decline in 1987 to 7.2 but increased to 10.0 in 1990.

Fig. 1. Pregnancy-related mortality ratios (PRMR) for 1979–1986 (gray) and 1987–1990 (black) in the United States. PRMR are pregnancy related deaths per 100,000 live births. (Adapted from Berg CJ, Atrash HK, Koonin LM, et al. Pregnancy-related mortality in the United States, 1987–1990. *Obstet Gynecol* 1996;88:161–7.)

It is informative to look in detail at the causes of obstetric deaths associated with anesthesia. Despite advances in the safety and administration of anesthesia for obstetric procedures, complications leading to death still occur. These anesthesia-related deaths are particularly sad because many of these anesthetics are elective and are provided to young mothers in the prime of life. The cause-specific pregnancy-related mortality ratio for deaths due to anesthesia have decreased by 47% since 1950, whereas deaths due to cardiomyopathy increased by approximately 70% and infection increased by 36%.

Hawkins and colleagues characterized the obstetric anesthesia deaths in the United States by specific cause, the relationships of these deaths to the type of anesthetic, and the type of obstetric procedure for the time period 1979 to 1990 [4]. Anesthetic-related mortality for the study period 1979 to 1990 is shown in (Fig. 2). Most women who died from complications of anesthesia in this study were undergoing a cesarean delivery (82%), whereas only about 5% of the deaths were associated with vaginal deliveries.

Fig. 2. Anesthesia-related maternal deaths from 1979–1990 by anesthetic type. (From Hawkins JL, Koonin LM, Palmer SK, et al. Anesthesia-related deaths during obstetric delivery in the United States, 1979–1990. *Anesthesiology* 1997;86:277–84; with permission.)

The causes of anesthesia-related death varied by the type of anesthesia administered. The women who died of complications of general anesthesia (52% of the deaths) primarily died as a result of airway management problems, which included aspiration, induction or intubation difficulties, inadequate ventilation, or respiratory failure. About 25% of the anesthesia-related deaths were associated with problems that occurred during the administration of regional anesthesia. Most of the deaths from regional anesthesia (70%) occurred among women who had epidural anesthesia; the remaining 30% were associated with spinal anesthesia. These deaths usually resulted from local anesthetic toxicity or an inadvertent high spinal or epidural block. Cardiac arrest during anesthesia was listed as the only cause of death in 23% of those reported. Analysis by type of anesthesia showed that 50% of the cardiac arrests occurred during general anesthesia and 7% during regional anesthesia.

Hawkins reported that in the 1979 to 1981 and 1982 to 1984 trienniums, deaths from general anesthesia accounted for about 41% of the cases, whereas deaths from regional anesthesia accounted for about 28% to 31% of the cases. Since 1984, the total number of deaths from complications of anesthesia during delivery has decreased. After 1984 there was an abrupt decrease in deaths due to regional anesthesia. This decline is significant in view of the fact that in 1981 regional anesthesia was used in about 55% of cesarean section deliveries, whereas in 1992 it was used in 84%. The decrease in deaths associated with regional anesthesia may be attributed to an increased awareness of local anesthetic toxicity that followed reports of death and permanent paralysis from inadvertent intravenous or intrathecal injection of local anesthetic. Protocols for test doses and fractionation of large doses of local anesthetics became standard practice. In contrast to regional anesthetic deaths, Hawkins also reported the absolute number of deaths due to complications of general anesthesia, although small, is not decreasing over time [4]. This is discouraging, as there has been a marked decrease in the use of general anesthesia in the last decade from 41% to 16% during the same time period. The perception of an increased relative risk of general anesthesia over regional anesthesia may be explained by the fact that regional anesthesia was being used for lower-risk elective procedures. General anesthesia may have been used primarily in emergency situations, in patients for whom regional anesthesia was difficult to administer (a morbidly obese patient), or when regional anesthesia was contraindicated (a patient with a coagulation disorder due to hemorrhage or preeclampsia). Thus, patients with a more acute or complex condition (severe pre-eclampsia or morbid obesity) are more likely to receive general anesthesia. The apparent higher risk from complications of general anesthesia may be due, in part, to a higher acuity level of these patients. Endler supports this hypothesis by his findings, which noted three risk factors for anesthesia-related maternal death: obesity (80% of cases), emergency surgery (80% of cases), and hypertension (53% of cases), which are all potential reasons why general anesthesia rather than regional anesthesia might be necessary [5].

#### **ASA closed claims project**

Since 1985, a unique perspective on anesthesia morbidity and mortality data has been made available to the practitioner through the American Society of Anesthesiologists Committee on Professional Liability Closed Claims Project. The data from this project are an accumulation of personal damage insurance claims filed against anesthesiologists and subsequently settled and closed since 1985. Analysis of the ASA Closed Claims database has allowed publication and increased understanding of such diverse anesthetic complications/injuries as: peripheral nerve injuries [6], awareness during anesthesia [7], adverse respiratory events [8], airway injuries [9], eye injuries [10], and burns from warming devices [11]. Injuries during obstetrical anesthetics occupy a significant portion of this database. The most recent analysis of obstetric anesthesia-related closed claims was presented in 1996 [3]. This chapter represents the first re-analysis of this data. As of January 2002, 35 insurance companies from across the United States that provide liability coverage to anesthesiologists have participated in this effort. The data are an accumulation of claims from about 46% of the major insurance carriers for approximately 15,000 of the 24,000 practicing anesthesiologists in the United States. To date, a total of 5300 files (excluding those for dental injuries) have been reviewed and entered in the ASA Closed Claims project database.

These data are unique because they highlight complications that result in payments by anesthesiologists. They provide anesthesiologists a glimpse of areas of morbidity and to a lesser extent mortality that the patients or their families, our customers, feel are important.

As an introduction to understanding the Closed Claims data, one must recognize the limitations of these data. Most important is that we cannot derive information about the incidence of adverse events or for that matter even how often claims for either specific events or total events were filed. For any given time period, the total numbers of claims filed and the total number of anesthetics administered are not known. We only see claims that are filed and closed. The incidences information is also complicated by the fact that most injuries attributable to medical error do not result in a claim of malpractice [12]. In addition, anesthesiologists may be named in claims in which there was no anesthetic-related adverse event. Finally, a problem limiting the usefulness of the data is the delay between when a claim is made and the file finally closed. The result of this delay means that the event profiles that emerge may be characteristic of anesthesia practice five to 10 years earlier than current practice. However, even though the files in the database are not a random sampling of obstetric anesthetic events, they are probably representative of obstetrical anesthesia liability issues as a whole because of the large number of insurance companies across the country that participate in the data collection.

Setting aside these limitations, the Closed Claims database does provide valuable information. The data allow comparison of claims made in obstetrical anesthesia cases versus those in other anesthesia specialties, looking for differences in patterns of injury or outcomes. One is also able to answer a number of important questions such as:

Which injuries are most common in obstetrical anesthesia?

What is the nature of the precipitating events leading to injuries?

What are the similarities or differences between regional and general anesthetics when administered to the parturient?

What is the nature of the payments made for obstetrical anesthesia claims?

Are more payments made in the obstetrical anesthesia venue than in non-obstetric areas?

Are the payments disproportionately large for obstetrical anesthesia claims?

Of the 5300 cases currently included in the ASA Closed Claims Database, 635 (12%) have been associated with obstetrical anesthesia care, ie, for patients having cesarean section or vaginal deliveries. Nearly three fourths (71%) of the claims against anesthesiologists have been associated with cesarean section; the remaining claims were associated with labor and vaginal deliveries. The frequency of claims made for both regional and general anesthetics used for cesarean deliveries in the obstetric file mirrors the frequency of the use of regional and general anesthesia for cesarean deliveries in the United States at the time the claims were filed [13]. One could conclude from this observation that there is no inherent safety in either regional or general anesthesia for cesarean section with regard to avoiding medical malpractice litigation.

#### **Comparison of obstetric versus nonobstetric claims**

Probably one of the most striking observations one can make when comparing the obstetric claims to the non-obstetric claims is that the obstetric claims contain a significantly higher proportion of what one might consider relatively minor injuries, ie, headache, back pain, pain during anesthesia, and emotional distress, whereas the incidence of major events claims is not too dissimilar (Table 1). This disparity in occurrence of minor claims in the obstetric file may be the result of unrealistic expectations by the patients or their families, general dissatisfaction with the overall care given to the patient, or in fact, due to a greater incidence of such problems in this patient cohort. Certainly, the popularity of regional anesthetic techniques in obstetrics combined with the increased risk of postdural puncture headache in this relatively young, female population puts those practitioners who care for this population of patients at greater risk of claims being filed. Pain is a continual cohabitor of labor and delivery, so dissatisfaction with pain control is always a potential problem. However, pain during obstetrical anesthesia procedures was almost always associated with regional anesthesia provided for cesarean. Reluctance of anesthesia personnel to convert inadequate regional to general anesthesia during cesarean section because of the fear of failed intubation or aspiration may have been a major contributing factor in this observation.

Table 1. Comparison of obstetric versus non-obstetric claims

	Obstetric claims (%)	Non-obstetric claims (%)
<b>Major claims</b>		
Death	22**	33
Patient brain death	9	13
Aspiration	5*	3
Nerve damage	16	17
<b>Minor claims</b>		
Headache	18**	2
Pain during anesthesia	11**	1
Back pain	12**	1
Emotional distress	10**	4

Percentages are based on the total files in each group. Some files had more than one injury and thus are represented more than once.

□□  $P \leq 0.01$ .

□\*  $P \leq 0.05$ ;

### Assessment of obstetric claims

#### Type of anesthetic

If the frequency of any complication exceeded 5%, these complications were evaluated further. Claims for maternal brain death and newborn brain damage were the most common claims made. As seen in [Table 2](#), maternal death was more commonly associated with general anesthesia than with regional anesthesia. Interestingly, claims associated with newborn brain damage or death were not related to the type of anesthetic administered to the mother. As might be expected, claims for postdural puncture headache, maternal nerve damage, pain during anesthesia, and back pain were primarily associated with regional anesthetic techniques.

Table 2. Common injuries — obstetric claims regional versus general

	Obstetric claims (%)		Regional anesthesia (%)		General anesthesia (%)	
<b>Major claims</b>						
Maternal death	18	10 <sub>□</sub>	37			
Maternal brain damage	13	9 <sub>□</sub>	21			
Newborn brain death	21	19	24			
Newborn death	7	5	8			
Maternal aspiration pneumonitis	4		1 <sub>□</sub>		11	
<b>Minor claims</b>						
Headache	15	22 <sub>□</sub>	1			
Nerve damage	13	17 <sub>□</sub>	4			
Pain during anesthesia	9	13 <sub>□</sub>	1			
Back pain	11	16 <sub>□</sub>	0			
Emotional distress	7	9 <sub>□</sub>	7			

Percentages are based on the total files in each group. Some files had more than one injury and thus are represented more than once. Cases involving brain damage only include patients who were alive when the file was closed (Data from Raschke RA, Gollihare B, Peirce JC. The effectiveness of implementing the weight-based heparin nomogram as a practice guideline. Arch Intern Med 1996;156(15):1645–9).

□\*  $P \leq 0.01$ .

It is difficult to judge to what degree the anesthetic care was causally related to claims made for newborn injuries. It was felt that less than 50% of the newborn brain injuries and only about 25% of the newborn death claims filed were actually related to the anesthetic. This is in stark contrast to the conclusion of the Closed Claims reviewers that nearly 75% of the claims, regardless of the injury, in both the obstetric and non-obstetric files were considered to be related to the anesthetic technique used. Thus, many more newborn injury claims were made claiming anesthetic malfeasance than were actually judged by Closed Claims review to have been related to anesthesia. This would suggest that anesthesiologists may be more likely to be unfairly named in claims involving newborn injury. However, consolation can be taken from the fact that the insurance companies and legal system often are able to recognize and are unwilling to compensate a substantial number of these newborn injury claims. The payment rates in the files involving newborn brain injury and newborn death (approximately 40%) were lower than the overall payment rate in all of the obstetric and non-obstetric files (approximately 55%).

#### Mode of delivery

[Table 3](#) tabulates the obstetrical anesthesia claims filed based on the mode of delivery of the infant. Not surprisingly, the frequency of maternal death claims was highest for those who were delivered by cesarean section. For the remaining major claims, there was no significant difference based on mode of delivery.

Table 3. Common injuries — obstetric claims mode of delivery

	Obstetric claims (%)		Cesarean section (%)		Vaginal delivery (%)	
<b>Major claims</b>						
Maternal death	18	21 <sub>□□</sub>	9			
Maternal brain damage	13	16	5			

Newborn brain death	21	22	20	
Newborn death	7	7	6	
Maternal aspiration pneumonia		4	5**	3
Minor claims				
Headache	15	10**	28	
Nerve damage	13	12*	17	
Pain during anesthesia	9	12**	2	
Back pain	11	7*	20	
Emotional distress	7	9	7	

Percentages are based on the total files in each group. Some files had more than one injury and thus are represented more than once. Cases involving brain damage only include patients who were alive when the file was closed.

[\*\*]  $P \leq 0.01$ .

[\*]  $P \leq 0.05$ ;

Another striking observation from the Closed Claims study has been that nearly all of the files involving pain during anesthesia were associated with cesarean deliveries. Patient perceptions of inadequate analgesia for labor and vaginal delivery are only a rare source of liability risk. This likely reflects the difference in expectations regarding pain relief of women in labor versus those undergoing cesarean section. This observation again underscores both the unwillingness of many anesthesiologists to convert to general anesthesia during an apparent inadequate regional anesthetic and the importance of not being reluctant to do so.

Finally, it is worthy to note that headache and back pain claims are relatively more common in the files involving vaginal delivery. This leads one to speculate as to whether these are due to the more frequent use of regional anesthesia for vaginal deliveries. It is commonly known that there is an increased incidence of these complications in women who have excessive flexion of the legs for extended periods during the second stage of labor.

### Precipitating events leading to injuries

#### *Obstetric versus nonobstetric claims*

If the Closed Claims Study provides the practitioner with anything, it should provide insight as to the kinds of precipitating events that lead to these injuries—not just simply a listing of the types of injuries or complications one observes. Identification of events that precipitate injury should interest the practitioner and subsequently lead to a decreased frequency of injuries.

Critical events involving the respiratory system were the most common in both the obstetric and the non-obstetric files. In addition, the reports in the closed claims database are consistent with commonly held beliefs that difficult intubation and pulmonary aspiration are, in fact, precipitating events leading to injuries in the obstetric patient (Table 4). Difficult tracheal intubation and pulmonary aspiration in particular are considered to be more common in obstetric anesthesia than in nonobstetric anesthesia [1,14]. However, it is interesting to note that there is no significant difference between the number of claims filed for either difficult intubation or pulmonary aspiration in the obstetric files compared to the nonobstetric files. In fact, the frequency of claims for esophageal intubation is lower in the obstetrical files than in the nonobstetrical files. Claims associated with maternal convulsions occur more frequently in the obstetrical files. This may not be surprising when one considers the frequency with which regional anesthesia is used in obstetrics versus the general operating room patients.

Table 4. Precipitating events — obstetric claims versus non-obstetric claims

	Obstetric claims (%)	Non-obstetric claims (%)
Respiratory system	16**	28
Difficult intubation	6	
Aspiration	3	2
Esophageal intubation	2*	5
Inadequate ventilation/oxygenation	2*	6
Bronchospasm	2	1
Airway obstruction	1**	2

Inadequate FiO2	1	1
Convulsion	7**	2
Equipment problems	7*	11
Cardiovascular system	7**	12
Wrong drug/dose	3	4

Percentages are based on the total files in each group. Some files had more than one injury and thus are represented more than once.

[\*\*]  $P < 0.01$ .

[\*]  $P < 0.05$ ;

### **Obstetric claims—regional versus general anesthesia**

Pulmonary aspiration was reported in more than 7% of the obstetric files in the Closed Claims database; however, it was judged to be the damaging event in only 4% of the claims filed. In nearly 90% of the cases where aspiration occurred, the primary anesthetic technique was general anesthesia (Table 5). In 25% of these cases mask general anesthesia was used, and in more than 30% of the claims, aspiration occurred during difficult intubation or after esophageal intubation, including several where cricoid pressure was not being applied. Some cases of aspiration were associated with regional anesthesia where either resuscitation was needed for high spinal blocks or heavy sedation was administered or vomiting occurred after delivery of the infant.

Table 5. Precipitating events — obstetric claims regional versus general

	Regional claims (%)	General claims (%)
Respiratory system	5**	45
Difficult intubation	1**	20
Aspiration	1**	11
Esophageal intubation	1	5
Inadequate ventilation/oxygenation	1	3
Bronchospasm	1	3
Airway obstruction	1	1
Inadequate FiO2	1	1
Convulsion	9*	4
Equipment problems	9*	4
Cardiovascular system	8	5
Wrong drug/dose	2	4

Percentages are based on the total files in each group. Some files had more than one injury and thus are represented more than once.

[\*\*]  $P < 0.01$ .

[\*]  $P < 0.05$ ;

A survey of members of the Society of Obstetric Anesthesia and Perinatology (SOAP) conducted in 1981 found that pulmonary aspiration was usually associated with difficult intubation [15]. The Closed Claims files as well as the SOAP survey reemphasize the need to consider every obstetric patient as having a full stomach. Recognizing the fact that many of the Closed Claims adverse outcomes were linked to difficult intubation should reinforce the need to have appropriate protocols and equipment on every labor and delivery unit in the event tracheal intubation proves difficult. However, equipment and protocols are not enough; labor and delivery personnel also must routinely practice difficult airway algorithms, a fact often overlooked and underemphasized.

Convulsions rank as the most common single damaging event associated with regional anesthesia in the obstetric claims files (9%). Eighty-five percent of these cases were associated with epidural. In slightly more than 50% of these cases, a test dose was given, but in only three of these cases was epinephrine use documented. For those claims in which convulsions were judged to be the primary damaging event, serious neurologic injury or death to the mother, newborn, or both was reported as the outcome 75% of the time. With the recognition of the problems of local anesthetic toxicity in parturients in the early 1980s, the number of claims made against anesthesiologists has fallen. Improvements in the quality of obstetric care, advanced monitoring, increased availability of resuscitation equipment, use of effective test doses, fractionation of

epidural anesthetic injections as well as a clear change in anesthetic practice and obstetrical anesthesia practitioners all have contributed to the decrease in claims made [16].

Nerve injury appears as the third most common claim in the obstetrical files. This is noteworthy in that nerve injuries are considered to be very rare by anesthesiologists. Anesthesiologists frequently minimize the risk of nerve injury claims by discussing the risks of analgesia/anesthesia with obstetrical patients. In contrast, obstetrical patients are often somewhat reluctant to accept regional anesthesia because of their concern for nerve injury. A panel of anesthesiologists further reviewed the nerve injury claims, and of these claims, 55% were felt to be a consequence of the regional block. Of those claims where the block was felt to have resulted in injury, 52% appeared to be related to direct trauma to neural tissue by the needle or catheter. In all of the cases in which direct neural trauma was felt to be the cause, paresthesia upon needle or catheter insertion was reported. Paresthesias are a common observation during epidural anesthesia and are probably of little significance. However, if nerve injury is reported by the patient, one usually can find a concomitant report of paresthesia. Neurotoxicity (19%) as well as ischemic injuries (14%), hypotension, or vascular insufficiency were far less commonly felt to be the cause of nerve injury. There are no cases of epidural hematoma reported in the obstetrical claims.

Obesity has become a nationally recognized problem. The world of obstetrics has not escaped this problem as anyone who delivers obstetrical anesthesia can attest. The risk of obese patients experiencing anesthetic complications, particularly associated with airway management, is well recognized [17,18]. Precipitating events in the obstetric claims files related to the respiratory system were significantly more common among obese parturients (32%) than non-obese parturients (7%). In addition, mortality was also significantly higher in obese parturients. Surprisingly claims for other injuries were not filed more frequently in the obese patient. There was a slight trend for claims associated with back pain and airway trauma; certainly the incidence of the former symptom is more prevalent in the obese parturient.

### Where did the money go?

As was noted at the outset of this review, obstetric files constituted 12% of the ASA Closed Claims database. In proportion to their frequency of claims, the obstetric files account for 11% of the total number of payments made and 14% of the total dollars paid in the settlements (Tables 6,7). For purpose of definition, payments are considered to be any money insurance carriers paid in either out-of-court settlements or judgment awards. The median money paid in the obstetric group was greater than the non-obstetric group, although not out of proportion. Considering there are two patients at risk and, on the whole the younger average age of obstetric patients, these payments do not seem out of line when one compares these payments to the payments made to the non-obstetric patients. Surprisingly, the upper range of payments to the obstetric patients is significantly less than the non-obstetric payments. This is despite the fact that the obstetric files containing a smaller proportion of deaths (maternal and newborn) but a greater proportion of brain injuries compared to the non-obstetric files. The latter injuries could potentially result in higher payments for projected lifelong care requirements.

Table 6. Payment data — obstetric claims versus non-obstetric claims

	Obstetric claims (%)	Non-obstetric claims (%)
No payment	41*	35
Payments made	50*	56
Median payment	US\$190,000**	US\$100,000
Range	US\$420,000 – 7 million	US\$150,000 – 23.3 million

Percentages are based on the total number of files in each group and do not sum to 100 due to missing data. Claims with no payments were excluded from calculations of median payment and range.

[\*]  $P < 0.05$ ;

[\*\*]  $P < 0.01$ .

Table 7. Payment data — regional claims versus general claims

	Regional claims (%)	General claims (%)
No payment	47*	29
Payments made	43*	64
Median payment	US\$76,000*	US\$375,000
Range	US\$420,000 – 6.8 million	US\$750,000 – 6.8 million

Percentages are based on the total number of files in each group and do not sum to 100 due to missing data. Claims with no payments were excluded from calculations of median payment and range.

[\*]  $P < 0.01$ .

## Summary

What have we learned so far from the Closed Claims database? For the most part, analysis of the claims made supports the generally held beliefs about the medico-legal risk of obstetrical anesthesia. However, the obstetric files do reveal a risk profile that differs significantly from the nonobstetric files.

One of the most surprising observations was the large proportion of relatively “minor” injuries in the obstetric files in contrast to the nonobstetric files. These claims may simply be the result of an increased incidence of such problems in obstetric patients. However, careful review of statements made in the files revealed that a substantial number of patients were unhappy with the care provided and felt themselves ignored and mistreated. Meyers has suggested that malpractice litigation serves the purpose not only of reparation of injury for substandard care but also one of emotional vindication [19].

Not unexpectedly, anesthesiologists are frequently named in claims involving bad fetal outcomes. Most of these claims, for whatever reason, do not result in payments to the litigant. Problems involving airway management, focusing on difficult intubation and pulmonary aspiration, are unfortunately well represented in the obstetrical files. There is no clear indication that this is changing. One of the principle causes of major adverse outcomes with regional anesthesia is local anesthetic toxicity. There is evidence that the frequency of these claims is on the decline. Nerve injury as a result of direct neural trauma continues to appear at regular intervals in the claims files.

It is clear from review of the ASA Closed Claim database that there are many unrecognized factors, separate from major injuries, that must be important motivating factors in patients who bring claims against anesthesiologists. A lawsuit does not necessarily signify injury. It has been suggested that the number of patients harmed by negligent care who actually file a claim may be less than 2% [12]. In contrast, lawsuits are usually not filed unless people perceive that they or a family member have been wronged by the system. Anesthesia care providers should give attention to conducting themselves in such a manner that patients will not be motivated to bring suit for an unexpected outcome [20]. Therefore, merely focusing one's attention on reducing the potential for major injuries may have little effect on solving the medico-legal dilemma in obstetrical anesthesia. The uniqueness of the ASA Closed Claims database is that it reflects the consumer's perspective. This point can not be emphasized enough because one of the best measures of quality of care comes from the patient's perspective.

### ***What can help?***

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Careful personal conduct

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Establish good rapport

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Involvement in prenatal education

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Early pre-anesthetic evaluation

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Provide realistic expectation

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Regularly review potential major and minor risks