

MEDICOLEGAL HEADACHES: TRIALS AND TRIBULATIONS

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Case History I

A 26-year-old woman, 12 weeks pregnant with twins following gamete in vitro fertilization, was admitted to the hospital by her obstetrician with a severe right nuchal-occipital and parietal pressure headache, with nausea and vomiting present for 7 days. During the prior 3 months, she had had daily headaches. She had no fever or systemic symptoms. She was given intravenous morphine and promethazine without help. She had a history of recurring generalized throbbing headaches with nausea, vomiting, light, and noise sensitivity lasting 3 to 4 days for the last 8 years. The frequency was about three times per month for the prior 2 years until the onset of daily headaches. Neurologic examination was normal.

Questions on Case I

Please read the questions, try to answer them, and reflect on your answers before reading the author's discussion.

- What is the diagnosis?
- Would you recommend testing?
- What treatment would you recommend?
- What are the potential areas of medicolegal exposure during pregnancy?

Case I Discussion

This could be a case of transformed migraine, status migrainosus, or new daily persistent headaches. However, these are diagnoses of exclusion. A magnetic resonance imaging (MRI) scan of the brain demonstrated a probable neoplasm of the right cerebellar hemisphere with severe mass effect and hydrocephalus due to obstruction of the

aqueduct of Sylvius. She was started on dexamethasone and underwent a ventriculoperitoneal shunt. Two days later, she underwent a craniotomy and resection of the neoplasm with clean margins. Microscopic examination revealed a pilocytic astrocytoma. At 36 weeks, she underwent elective C-section with delivery of healthy twins. Two months postpartum, a follow-up MRI showed tumor recurrence. She had additional surgery and then radiotherapy. Ten years later, she is doing well.

I could have been sued in this case. The patient was at an obstetric and gynecology specialty hospital that did not have a computed tomography (CT) or MRI scanner. I saw the patient in the afternoon, but the scan was not done until the next morning. The patient could have herniated before the scan. This scenario could also happen at a hospital with scanners if the scan is not performed in a timely fashion.

A normal neurologic examination does not exclude serious underlying causes. Papilledema is present in only 40% of patients with brain tumors. Although neuroimaging should not be obtained without appropriate indications, when the indications are present, imaging should be performed. MRI scans during pregnancy have not been associated with any type of birth defects.

There are some specific secondary causes of headaches that should be considered during pregnancy. Pregnancy does not increase the risk of developing a primary brain tumor. Meningiomas may increase in size during pregnancy and then regress postpartum. Twenty-five percent of macroprolactinomas will increase in size enough to cause problems during pregnancy. Pituitary apoplexy, hemorrhage into an enlarged pituitary, can be a complication. Brain metastases occur in 20% of cases of choriocarcinoma, which is due to malignant transformation of the trophoblast. Although choriocarcinomas usually follow a

molar pregnancy, they can also follow term delivery, abortion, and ectopic pregnancies.

Preeclampsia can have an onset from the twentieth week of gestation through the postpartum period. As many as 45% of cases of eclampsia have an onset postpartum with a mean of 6 days and up to 4 weeks.

There is an increased risk of cerebrovascular disease during pregnancy. Nontraumatic subarachnoid hemorrhage (SAH) during pregnancy has an incidence of about 20 per 100,000 deliveries. This is the third most common cause of nonobstetric mortality, with a risk five times higher than outside of pregnancy. SAH is due to ruptured saccular aneurysms and arteriovenous malformations with equal frequency. Up to 20% of aneurysmal ruptures occur during pregnancy or in the early postpartum period. The risk of aneurysmal SAH is highest during the late third trimester, during delivery, and in the puerperium. The most common time for hemorrhage from an arteriovenous malformation is between 16 and 20 weeks gestation or during parturition. Ischemic stroke, which is 13 times higher during pregnancy and the puerperium than expected outside of pregnancy, can also be a cause of headaches. Pregnancy and the puerperium are also associated with an increased risk of cerebral venous thrombosis. Ninety percent of cases occur during the puerperium, most commonly in the second or third weeks postpartum.

Two other disorders should be considered. Although pregnancy is not a risk factor, pseudotumor cerebri can develop or worsen during pregnancy. As pregnancy is a state of relative immunosuppression, coccidioidomycosis, tuberculosis, listeriosis, and malaria have an increased risk of spread to the central nervous system when acquired during pregnancy.

Treating pregnant patients with headaches heightens medicolegal exposure. In addition to treating the patient and child, decision making may often become more complicated because multiple family members may become actively involved, including the husband, mother, and mother-in-law. Misdiagnosis involving conditions associated with pregnancy can occur. For example, SAH can be misdiagnosed as preeclampsia or eclampsia, or postpartum headaches due to cerebral venous thrombosis can be misdiagnosed as migraine. Medicolegal concerns may also arise when obtaining neuroimaging. Although CT with pelvic lead shielding and MRI have not been associated with harm to the baby, many hospitals and imaging centers are reluctant to obtain scans during pregnancy and may have patients sign releases which may overstate the minimal or absent risk, and scare the patient.

Before prescribing acute and preventative headache medications, the patient should be advised of the potential risks during pregnancy. For many drugs, there is insufficient knowledge about the risks of birth defects despite the fact that

67% of women take medications during pregnancy, and 50% take them during the first trimester. Since many of our headache patients are women of childbearing age, discussion on medication and pregnancy should be held well before pregnancy to avoid potential catastrophes, such as the 1% risk of neural tube defects when taking divalproex sodium during the first trimester. Overuse of opiates may also raise concerns not only of medication-rebound headaches, but also of habituation for both the mother and child.

Follow-up

The patient saw another neurologist 4 months before the admission at 12 weeks gestation (ie, 1 month before the pregnancy) and was correctly diagnosed with migraine. The patient requested to have an MRI scan of the brain, but the neurologist suggested that she try treatment first. Postpartum, the first neurologist was sued for failure to diagnose. Plaintiff counsel argued that if the scan had been done as the patient requested, then the neoplasm would have been diagnosed at an earlier stage, increasing her chance of survival. In addition, she would have elected not to get pregnant at that time, and her twins would not have been exposed to the myriad potential risks of a life-threatening illness during pregnancy.

What is the first neurologist's defense in this malpractice case?

Follow-up Discussion

When initially seen by the first neurologist, the patient had a long history of typical stable migraine with a normal neurologic examination. There was no medical indication for neuroimaging. Indications to consider neuroimaging in migraineurs include the following:

- Unusual, prolonged, or persistent aura
- Increasing frequency, severity, or change in clinical features
- Status migrainosus
- First or worst migraine
- Migraine with a sudden onset and severe intensity ("crash migraine")
- New onset over the age of 50 years
- Variants including basilar, confusional, hemiplegic, aura without headache
- Late-life migraine accompaniments
- Posttraumatic migraine

Therefore, this case is highly defensible: there was no neurologic indication for neuroimaging.

Although migraine experts may agree, this does not mean that a jury would come to the same conclusion. After all, the patient wanted a scan but the doctor would not listen to her. The patient or lawyer may say, "Doctors just seem too busy to listen to us. They just want to rush us in

and out to make money. Besides, the doctor may have been in cahoots with the insurance company to save money by not doing a scan. Additionally, isn't it obvious that patients with bad headaches should have a scan to check for a brain tumor or aneurysm? Then the poor twins, although seemingly healthy at birth, were exposed to all kinds of risk from the mother's treatment for the brain tumor. Perhaps they'll later have school problems." With encouragement from the malpractice insurance carrier, the neurologist settled the case for \$300,000 (US) without going to trial.

Just because you do the medically correct thing does not protect you from malpractice suits. You can be struck by lightning in a case such as this in which a patient with migraine has an unrelated cerebral neoplasm. Unfortunately, this leads to the practice of defensive medicine where numerous normal scans of the brain are performed in headache patients. You could argue that a normal scan may at least reassure an anxious patient and/or family members and be worthwhile.

In my practice, if a patient with headache without an indication wants a scan, I explain why the yield would be very small, but if they want the scan and either they or their insurance company are willing to pay for the scan, then I order it. It is interesting how easily reassured patients with high deductibles or no insurance are, compared to those with 100% coverage for testing. Unfortunately, after doing a fancy scan, you may find something unrelated that you have to deal with, such as nonspecific white matter abnormalities. If the patient with migraine says that they are afraid they might have an aneurysm and you obtain a magnetic resonance angiography (MRA), then you know that about 2% of the general population has saccular aneurysms.

Case History II

A 52-year-old nurse presented to a teaching hospital emergency room in Houston, Texas, on June 9, 1995, complaining of acute vertigo, nausea, and vomiting, but no headache. She also reported that she had transient upside down or inverted vision. She was seen by a neurology resident and diagnosed with a peripheral vestibular disorder. The resident checked the patient out to her attending over the telephone, who concurred with the diagnosis and treatment plan. The true vertigo subsided in a few days, and the patient had a sense of lightheadedness.

A few days later, she also reported fractured vision of the left eye, like a broken glass, lasting perhaps 30 minutes without a headache. She subsequently reported the same visual symptom to subsequent doctors on March 22, 1996 (along with a headache) and on January 28, 1998.

I saw her on June 14, 1995. Her weight was 340 pounds. Neurologic examination was normal except for blurred optic discs (due to pseudopapillema, according to an oph-

thalmologist on June 16, 1995, who found a normal eye examination including normal visual fields). Because of the blurred optic discs, an MRI scan of the brain was obtained on June 14, 1995. The radiologist initially gave me a normal verbal report and then recalled the patient for additional imaging, which suggested a left ophthalmic artery aneurysm confirmed on MRA. There was no evidence of SAH. A cerebral arteriogram on June 29, 1995 revealed a 6 to 8 mm aneurysm of the left ophthalmic artery near its origin with a patulous neck. There was no evidence of vasospasm. An electronystagmography (ENG) study on June 22, 1995 revealed left unilateral weakness on caloric testing, consistent with a peripheral lesion. She saw two ear, nose, and throat (ENT) physicians during this period, who diagnosed peripheral vestibular dysfunction.

The neuroradiologist recommended against a coil procedure on the aneurysm because of the wide neck. The neurosurgeon discussed surgical treatment. After research by the patient and her family and friends, she initially sought a Health Maintenance Organization (HMO) approval to get full coverage for treatment out of network in another city, but this was denied. She went to Paris for treatment (she is a French citizen), where she underwent successful coil embolization of the aneurysm in a prolonged procedure in which two coils were used.

Following the procedure, the claimant had numerous complaints that she attributed to the aneurysm, including chronic fatigue, weight gain, memory problems, vertigo, and depression. She has undergone extensive evaluation in the years since. None of the physicians who have evaluated her since including three additional neurologists and a neurosurgeon have ever attributed her subjective complaints in any way to the incidental aneurysm. Follow-up arteriogram and MRA have demonstrated obliteration of the aneurysm. A sleep study on April 3, 1998 revealed severe sleep apnea with 66.9 apneic episodes per hour. The claimant has chosen not to treat her sleep apnea despite a good response to a second sleep study with continuous positive airway pressure. She has also developed diabetes and a vaguely defined autoimmune disease with a positive antinuclear antibody test.

Questions on Case II

Please read the questions, try to answer them, and reflect on your answers before reading the author's discussion.

- What was the basis for a malpractice claim?

Case II Discussion

I do not believe that there was any basis for any lawsuit, but all it takes in the United States for a case to go forward is

for the plaintiff to find one expert who finds negligence and causation of damages. As in Case I, this was another lightning strike. A patient with unrelated peripheral vertigo and migraine aura without headache was found to have an incidental aneurysm.

The plaintiff and her attorney initially proposed a conspiracy theory that involved denying her care and not allowing her to go out of network, as well as failure to diagnose. She sued her family doctor, one of the two ENT physicians, the three neurologists, the neurosurgeon, the HMO, and the hospital. A neurosurgeon expert from California retained by plaintiff counsel found fault with all the parties, but the judge granted summary judgement, dismissing the case for the ENT physicians, the hospital, and the HMO, citing inadequate expert testimony. The suit against the two other neurologists and myself and the neurosurgeon proceeded, based upon the opinions of the expert neurosurgeon expressed in deposition and at trial. I will list the opinions of the plaintiff expert and then my views.

1. He opined that the aneurysm may have ruptured or been in spasm from June 9, 1995, and that the vertigo, nausea, and vomiting were manifestations of a SAH from the left ophthalmic artery aneurysm.

My response: There was no objective evidence of SAH, and the patient did not have an acute headache. Ophthalmic artery aneurysms do not present with isolated vertigo, nausea, and vomiting. The ENG also demonstrated peripheral vestibular dysfunction.

2. The claimant reported that she had upside down or inverted vision on June 9, 1995. Plaintiff expert stated that this was a symptom of the ophthalmic artery aneurysm.

My response: The upside down vision was due to peripheral vestibular dysfunction. An ophthalmic artery aneurysm does not cause this complaint.

3. The claimant also reported fractured vision of the left eye, like a broken glass, which the expert attributed to the aneurysm.

My response: The claimant reported the same visual symptom to subsequent doctors when she had two more episodes in 1996 and 1998 with and without headache, which were due to migraine aura with and without headache and not the aneurysm.

4. The expert stated that the claimant's chronic complaints of fatigue, weight gain, memory problems, and depression were due to delayed treatment of the aneurysm. He also opined that she was disabled due to the aneurysm.

My response: The documented severe sleep apnea, which she chose not to treat, can cause all of her complaints. Obesity, autoimmune disease, and diabetes may also be contributory.

5. The claimant believed, and the expert also opined, that I fell below the standard of care when my office initially reported that the first MRI was normal.

My response: In his testimony, the expert disclosed that he was not familiar with my medical records, which included a telephone message of a verbal report stat from the radiologist that the MRI was normal. The radiologist later decided that he wanted more images. I ordered the additional imaging studies.

6. The expert told the jury that he likes to review records in malpractice cases first, without knowing which side has requested the review. He provided an affidavit in 1997 opining that my conduct in this case fell below the standard of care. This affidavit was the basis for the lawsuit to proceed to trial. However, in his January 30, 1998 deposition, the expert disclosed that he provided this affidavit based upon what the claimant and family told him without reviewing my medical records.

My opinion: Review of the medical records is a prerequisite before giving opinions in malpractice cases. This is a gross breach of the standard for medical experts.

I spent numerous hours meeting with defense counsel before the case went to trial in November 2001, almost 6.5 years after I saw the patient. At trial, the medical school attending saw the patient for the first time. The trial lasted 6 days, and the jury quickly found in favor of myself and the other physicians. The plaintiff appealed the trial decision, but after additional hearings, pleadings, and cost, the appeal was denied. My legal defense bills alone were over \$175,000 (US), and the defense bills for all the defendants were over \$1 million (US). All this cost to defend a frivolous suit based upon fallacious expert testimony! All this aggravation from the finding of an incidental aneurysm! The physicians involved are still bearing additional costs from this case. We have all had to provide a summary of this case when renewing hospital privileges or managed care contracts. In addition, my malpractice premium is higher because of this case.

Case History III

A 38-year-old woman presented to the emergency room in a small town at 9:30 pm with a 3-day history of a severe left-sided retro-orbital and temporal throbbing headache with nausea but no other symptoms. There was a history of occasional prior headaches, but this was the worst she had ever had. Neurologic examination was normal. The neck was supple. She was given an opioid injection and discharged slightly better. No testing was done. At 6:00 the next morning, upon awakening, she complained of a persistent severe headache. Thirty minutes later, when she was being driven back to the emergency room by her husband,

she suddenly became unresponsive and slumped over. In the emergency room, she was found to be comatose with decerebrate posturing bilaterally. A CT scan of the brain showed a diffuse massive SAH.

As the hospital did not have a neurosurgeon, she was intubated and transferred to a regional hospital 100 miles away by ambulance. A helicopter transfer was not possible because of inclement weather. She died 1 day later. At autopsy, she was found to have a ruptured left middle cerebral artery aneurysm. I was retained as a defense expert for the hospital.

Questions on Case III

Please read the questions, try to answer them, and reflect on your answers before reading the author's discussion.

- Should she have had a CT scan when she first presented to the emergency room?
- What is the probability that the scan would have been abnormal?
- The husband and five children are suing the first emergency room physician and the hospital that employed the physician, for malpractice. Was he negligent?

Case III Discussion

Yes, the patient should certainly have had a scan as part of the evaluation of a "first or worst" headache, even with a normal neurologic examination and supple neck. Headache is present in 90% of those with SAH, can be present in any location, and has a usual duration of 1 to 2 days, but can last several minutes to several hours to 2 weeks. The presentation of SAH includes headache in only 33%, and headache, nausea, and vomiting in 66%. About 50% will have a normal or near normal neurologic examination.

A CT scan of the brain is usually the initial imaging study to detect SAH. After the initial event, the probability of detecting aneurysmal hemorrhage on CT is as follows: first 24 hours, 95%; day 3, 74%; 1 week, 50%; 2 weeks, 30%; and 3 weeks, almost 0%. So in this case, the chance of a positive CT was 74%. Of course, if the initial CT were normal, then a lumbar puncture would be indicated to check for the presence of xanthochromia. Xanthochromia is initially due to breakdown of red blood cells resulting in the release of oxyhemoglobin which can be detected as early as 2 hours after the entry of red blood cells in the cerebral spinal fluid. However, xanthochromia is not present in all cases until 12 hours. Using spectrophotometry, the probability of detecting xanthochromia at various times after SAH is as follows: 12 hours, 100%; 1 week, 100%; 2 weeks, 100%; 3 weeks, over 70%; and 4 weeks, over 40%.

These limitations of CT and cerebral spinal fluid in the diagnosis of SAH can have important implications. For example, if a patient had a sentinel hemorrhage 3 weeks previously, both the CT and cerebral spinal fluid examinations could have become normal. An MRA or cerebral arteriogram would then be necessary to diagnose a saccular aneurysm.

There are many emergency room and primary-care physicians who are not familiar with SAH with headache, and a normal or near-normal neurologic examination, and misdiagnose migraine, tension, or "sinus" headaches. It is not surprising that this circumstance leads to many lawsuits, as there are perhaps 15,000 aneurysmal SAHs yearly in the United States meeting these criteria of the 30,000 total aneurysmal SAHs yearly. I have seen several patients over the years who had undiagnosed aneurysmal SAH who I saw in the office several weeks later without testing and a misdiagnosis.

So how could you possibly defend the emergency room physician? This patient had a re-bleed of the aneurysm, which occurs in only 4% of the cases within 48 hours of the initial bleed. Even if the patient had appropriately had a CT scan with or without a lumbar puncture, depending upon the results of the CT, unfortunately, there still would not have been enough time for the patient to be transferred to the tertiary hospital and to receive treatment before the re-bleed. Look at the timeline. A transfer would have occurred in the early morning. There was not enough time for the patient to have a cerebral arteriogram and endovascular coil obliteration or clipping of the aneurysm, depending upon the location and morphology of the aneurysm and the capabilities of the hospital. The outcome would have been grim whether the re-bleed occurred while the patient was in the car or in the neurosurgical intensive care unit.

A misdiagnosis is not enough. Plaintiff counsel would have to demonstrate more likely than not that the outcome would have been different if a proper diagnosis had been made. Of course, a jury could ignore the timeline, feel anger at the misdiagnosis resulting in the widower and five children who had lost their mother, and find in favor of the plaintiffs.

Overview of Medicolegal Aspects of Headache

There are many reasons for you to be sued for medical malpractice when treating headache patients. Simply stated, in the United States of America, medical malpractice is negligent conduct as compared to the standard of care that results in damages as testified to by a medical expert. Then, the plaintiffs have to demonstrate, with reasonable medical probability (more likely than not, with a greater than 50% probability), causation: that the negli-

gence resulted in damages (harm to the patient, a poor outcome). Your risk of having a successful malpractice suit against you can be significantly reduced by being aware of the many potential areas of exposure, and obsessively and compulsively documenting patient encounters, discussions, and telephone calls.

Misdiagnosis or failure to diagnose is a potential cause of lawsuits. Most headaches are benign primary disorders in which diagnostic testing is not indicated, but there are numerous secondary causes that need to be excluded as appropriate, such as SAH, meningitis, neoplasms, temporal arteritis, cerebral venous thrombosis, and arterial dissections. I am often concerned about missing the subtle or uncommon presentations. Examples include headache presenting due to the following causes:

- Meningeal carcinomatosis with a history of breast cancer many years previously and a normal CT scan
- Cryptococcal meningitis in a patient without immunosuppression
- A sentinel headache seen for the first time weeks after the event in a patient with a background of chronic daily headache
- Cerebral venous thrombosis in an obese patient with a pseudotumor cerebri type presentation
- Brief facial pain due to cervical carotid artery dissection
- Temporal arteritis with a unilateral nuchal-occipital headache similar to occipital neuralgia

The physician has to be familiar with not only atypical presentations but also the sensitivity and specificity of diagnostic testing and error in interpretation of the studies. For example, MRI is the preferred neuroimaging study for the evaluation of headaches, with the exceptions of acute headache trauma and acute SAH. However, a routine MRI of the brain may not be sufficient. In some cases, pathology may be missed without the addition of an MRA, venogram, postcontrast studies, or additional sections through the area of interest. There are certainly limitations to MR evaluations. For example, a high quality MRA may miss 10% of intracranial saccular aneurysms detected by cerebral arteriography. As another example, temporal arteritis can be present with a normal or near-normal erythrocyte sedimentation rate.

Unless you interpret your own studies, you are also dependent upon the skill of the radiologists. Some years ago, I saw a patient with vertigo and a normal neurologic examination. An MRI was interpreted by the neuroradiologist as demonstrating an old left middle cerebral artery distribution infarction. After a delay of 6 weeks, a second study was obtained demonstrating a neoplasm which, at surgery, was found to be a glioblastoma multiforme. A review of the first scan showed a lesion in the middle cerebral artery distribution, but with mass effect and effacement

of the Sylvian cistern. Before the second scan, the patient also had neuropsychological testing to evaluate cognitive complaints, and the testing was reported to show anxiety and depression. Behavioral therapy was recommended. I was sued by the patient as “the captain of the ship,” but the neuroradiologist and neuropsychologist were not sued. The plaintiff attorney did not have an expert witness but claimed “*res ipsa loquitur*” or “the thing speaks for itself.” I was granted a summary judgement of dismissal of the suit by the judge. However, the case was appealed all the way to the Texas Supreme Court, with upholding of the summary judgement. The misreading of neuroimages is common. Providing the radiologist with sufficient clinical information can be crucial. If you are not sufficiently knowledgeable, then obtain a second reading of the study in difficult cases.

A delay in diagnosis can also make you liable. If the inpatient or outpatient scan is not done quickly enough, you may be responsible if you cannot demonstrate that you ordered the scan stat, spoke to the radiologist, followed through to see that the study was done, and that the ward clerk actually sent your request in, etc. Problems can also arise with managed care plans in which a precertification for neuroimaging must be obtained, but is turned down. Depending upon the criteria used by the insurance company, in some cases, you must use certain “magic words” to get the scan approved.

I was a defense expert in the case of a 38-year-old man with an acute periorbital headache with a Horner’s syndrome. The neurologist thought the cause was probably Raeder’s syndrome but had wanted to exclude a dissection. A carotid ultrasound was ordered for 2 days later. The next day, the patient suffered a middle cerebral artery distribution stroke due to a cervical carotid dissection, resulting in a permanent hemiplegia. The plaintiff expert argued that if the diagnosis had been made earlier, then treatment with heparin could have been started and the stroke prevented. Even though anticoagulation is the standard treatment, the weakness of the argument was the absence of randomized, controlled studies demonstrating an improvement in outcome with the use of heparin. The neurologist settled the case for six figures rather than take a chance with a jury.

Even when testing is obtained in a timely fashion, there can be a delay in diagnosis when the studies are not interpreted or you do not communicate with the patient quickly enough. Let us speculate that a patient with a normal examination had a severe headache 2 months previously for which they are just now obtaining neurologic consultation. Although the headache was probably a migraine, you obtain an MRI with MRA of the brain which shows an intracranial aneurysm. Terrific—you have made the correct diagnosis. But there can be many sources of delay that can

result in a bad outcome if the patient were to have a re-bleed in the interim. Examples include the following: the scan was not done for 2 weeks because it took a week to obtain HMO precertification and then a week to schedule the study; the scan was performed on a Friday afternoon and not read until Monday; a faxed report of the scan comes to your office Friday afternoon after you've already left for the weekend. Or the scan might show a possible neoplasm where the radiologist recommends a contrast enhanced study. You or your office staff may not appropriately follow up and advise the patient of the finding and obtain additional imaging.

Informed consent is certainly important to advise the patient of possible adverse events associated with testing or treatment. But let us not forget about informed refusal. For example, you may recommend a scan in a new patient with headache and a new-onset seizure to look for a neoplasm. However, let us say that the patient declines, does not follow through, or cannot pay for the study. One year later, the patient and/or family go to an attorney telling them that you did not obtain the scan, or even though they could not pay for the scan, you did not make arrangements for one. Document these interactions in a chart!

Adverse events due to medications are another potential area of exposure. Examples include the following: myocardial infarction in patients with known coronary artery disease or risk factors when given triptans; kidney stones due to topiramate; and neural tube defect due to valproic acid. It is difficult, if not impossible, to truly advise patients of all the side effects of medications. Even if you give patients a copy of the package insert and they have a side effect, their attorney could argue that you did not adequately explain the risk and that a lay person could not be expected to understand medical terms such as thrombocytopenia or torsade de pointes without an explanation. Usually, we explain the risk of common side effects and rare serious side effects depending upon the medication. Patients who become habituated to butalbital and/or opiates may sue you for causing their dependence. Remember to document and closely follow the amounts of medication that you are prescribing.

About 10 years ago, I was prescribing amitriptyline to a young woman for migraine prevention. She was doing well, so I was seeing her once or twice a year. One day, I received a telephone call from her husband informing me that she had been depressed and took a fatal overdose. There was no litigation, but I certainly felt badly. However, I do not believe that I could have prevented the outcome. It is worthwhile to be cognizant of the comorbidity of depression and bipolar disorder and migraine and the depression in those with chronic daily headache who might be suicide risks.

During the last year, there have been lively debates in many states and in the US Congress over medical liability reform. Our local newspaper, The Houston Chronicle, ran an editorial on this issue, blaming the problem to a significant degree on incompetent drug-addicted physicians and lax enforcement by the state board of medical examiners. My letter to the editor probably expresses the views of many physicians, including headache specialists, on this issue:

Bad Medicine/Doctors' Malpractice Lies at Heart of Insurance Crisis is a bad editorial (January 12, Editorial Page). I agree with appropriate enforcement by the Texas State Board of Medical Examiners. However, impaired and incompetent physicians are just a small part of the picture. Each year, about 25% of physicians in Texas are named in medical malpractice cases. About 85% of the cases are closed with no indemnity payment.

Contrary to the implication of the Chronicle editorial, I have no impairment or drug addictions, and, in fact, I am listed in the publication *Best Doctors in America*. Yet, I have had three malpractice cases against me in over 20 years of practice after treating more than 40,000 patients. In all three cases, the judge or jury found in my favor, but at considerable expense. In the most recent suit, a disgruntled patient sued six physicians, a Texas Medical Center hospital, and a large insurance company, in a case that was without merit. Yes, we won, but after spending over \$1 million (US) for defense attorneys; my bill alone was \$175,000 (US). Because of many cases such as this, malpractice premiums are skyrocketing. And guess who really pays? All of us.

Incorrect judgment calls, medication side effects, and complications of surgery are common, even when you evaluate the best doctors in Texas. The philosophy that someone has to be responsible is fueling the crisis.

We have two lotteries in Texas. It is time to support Governor Rick Perry's initiative to end the medical malpractice lottery and appropriately compensate those who are truly victims of malpractice. We cannot afford not to. (Houston Chronicle, January 13, 2003, Outlook section, p. 2)

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Editorial Comments

Dr. Evans provides us with many useful admonitions on lawsuits and documentation. Lawsuits can be brought worldwide, and adequate thought and charting in doctor–patient interactions can be prophylactic. An ounce of prevention is worth a pound of cure with respect to these malpractice lawsuits. Furthermore, these cases are what makes case-based learning unique—in no other educational tool does one get the “feel for the case” or the “personal opinions” of the consultant. It is not necessary whether one agrees with the outcomes in these cases or not, or whether one country has more litigation or not— it is necessary that physicians will see and care for patients with headache, recognize their potential liabilities, and work to reduce medical error. Even when this is done, however, even the best doctors can be caught in the maelstrom. Dr. Evans has provided us all with a highly personal but valuable overview of this important topic.

FINAL DIAGNOSES:

Case I, Pilocytic astrocytoma

Case II, Peripheral vestibular disorder, incidental left ophthalmic artery aneurysm, severe sleep apnea

Case III, Subarachnoid hemorrhage