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Introduction
A situation that diagnosticians in all specialties fear occurs when a patient’s symptoms suggest one diagnosis, but there is a slight chance that the symptoms point to something completely different — and that condition will be catastrophic if not promptly and correctly diagnosed. This case from the Northeast illustrates an instance in which this situation occurred, and how suboptimal consultation and miscommunication complicated matters even further, ultimately resulting in a patient’s death.

Facts
The patient, a 33-year-old female, presented to an emergency department (ED) on December 29 at 7:03 p.m. with complaints of a severe headache and loss of peripheral vision. She was 10 days postpartum, and her symptoms began soon after delivery. This was the patient’s fourth child, and her pregnancies had been uncomplicated.

The emergency physician ordered a head CT scan, which showed left posterior and occipital lobe edema. These results suggested either a tumor or infarct. The scan also showed a 6 mm midline shift. The radiologist advised that an MRI would be necessary.

Dr. D, a neurosurgeon, was consulted; she ordered an MRI, which was completed at 11:36 a.m. on December 30. The MRI showed an irregular mass in the left occipital lobe with surrounding vasogenic edema. The mass measured approximately 2.9 cm. Contrast images showed enhancement of the mass’s margins, and the mass mostly effaced the posterior horn of the left lateral ventricle. The formal interpretation was “occipital lobe mass as described above with rim enhancement, with a central area of necrosis. Findings are most consistent with neoplasm, though abscess is still a possibility. This does not represent infarction.”

Although Dr. D included a cerebral abscess in her differential diagnosis, she believed the tumor was much more likely a glioblastoma multiforme (GBM) and, therefore, not a surgical emergency.
Dr. D discharged the patient with instructions to contact her office on January 9 to schedule surgery. The patient was given prescriptions for dexamethasone and an analgesic.

The patient returned to the ED at 8:20 a.m. on January 3 with increased complaints. A CT scan confirmed the mass in her brain had “increased significantly in size since [the] previous study,” causing a significant midline shift that was measured at 1 cm. Dr. D was notified of the change in the patient’s condition. Based on the rapid increase in the size of the mass, Dr. D recognized that it was most likely an abscess. She directed the medical staff to transfer the patient to a tertiary care center and was planning to remove the mass the following morning. Dr. D wanted to perform the surgery the following morning because the day staff was more experienced with this type of complex procedure than the night shift, and she wanted to operate under the best possible circumstances.

Dr. D consulted Dr. P, a neurologist, who evaluated the patient upon her arrival at the tertiary care center. Dr. P noted that the patient was drowsy but easily arousable, answered some questions, and then fell back to sleep easily. Her pupils were 2 mm bilaterally and sluggish. The doctor was unable to visualize the ocular fundi. Motor strength was grossly normal in all four limbs. Dr. P continued the steroids but added levetiracetam, hydromorphone, and ondansetron. The patient was placed in the neuro ICU, and Dr. D was at the patient’s bedside at 6:45 p.m. to discuss the plan of care with the patient and her husband.

At 9:15 p.m., the patient was noted to be lethargic; at 10:40 p.m., she became tachycardic, and the medical staff was not able to arouse her. The nurses documented that the patient’s left pupil was 5 mm and nonreactive, her right pupil was 3 mm and nonreactive, she did not open her eyes or follow commands, and she was posturing with painful stimuli. Dr. P was informed, and he instructed the nurses to immediately contact Dr. D. After she was contacted, Dr. D ordered a stat CT scan, which showed the midline shift was now 1.2 cm. The radiologist stated “While the left temporal horn is not present because of extrinsic compression, the right temporal horn may be slightly enlarged, suggesting early herniation of the brain stem.”

The patient was taken for emergency surgery, which began at 11:59 p.m. and concluded at 3:52 a.m. on January 4. Dr. D performed a left occipital craniotomy and evacuation, including resection, of the abscess. The patient was taken back to the neuro ICU at 4 a.m.

The nursing assessments and consults by Drs. D and P remained insignificant throughout the day on January 4. A head CT scan taken at 9:44 a.m. that day indicated “minimal intracranial hemorrhage at the posterior operative site. There is no subdural hematoma. The shift in midline structures to the right is slightly decreased from yesterday when it measured 1.14 cm. Today it measures .86 cm.” The radiologist noted, “Successful craniotomy with partial abscess removal in the left occipital lobe.”
However, the patient began to deteriorate shortly after midnight on January 5. The nurses documented that the patient had some receptive aphasia and that she continued to answer questions about time with information about her hometown and state. The documentation stated that even when the patient was reoriented and asked to repeat back the date or year, she again responded with her hometown and state.

At 3:00 a.m., the nurses documented no neurologic change; however, at 7:00 a.m., they documented that the patient was confused and disoriented but arousable to voice.

At 7:15 a.m., the nurses documented “expressive and receptive aphasia noted; patient states she is confused and answers questions with clear speech but does not comprehend or answer questions appropriately. When she is asked to state her first name, place, or situation, she answers with her birthday every time.” The nurses noted that the patient was reoriented four times and that they would continue to reorient her back as needed throughout the shift. They also documented that the patient followed commands with prompting and her pupils were equal and reactive at 3 mm bilaterally.

At 8:18 a.m., the nurses noted a “sudden change in patient assessment.” The patient was tachycardic and not responsive to verbal or deep painful stimuli; she had labored agonal breathing and pupils fixed at 4 mm. Dr. D was rounding on patients that morning, and she ordered a stat CT scan. The radiologist’s impression was “persistent left towards right midline shift and evidence of a downward shift, with compression of the pons and the prepontine cisterns; this pattern of generalized cerebral edema is a new finding. The compression of the pons is a new finding since 1/4.”

Drs. D and P concurred that no surgical intervention was likely to help at that time, and the patient would be treated with mannitol and hyperventilation. An EEG was obtained, which confirmed the patient was brain dead and she was pronounced dead at 9:30 p.m. on January 5. No autopsy was performed.

A malpractice lawsuit was commenced against Dr. D, Dr. P, and the hospital. With Dr. D’s consent, the case against her was settled with a payment and defense costs each at the low end of the high range. Payments also were made on behalf of Dr. P and the hospital; however, because they were not MedPro insureds, the amount of those payments is not known.

**Discussion**

This is a very interesting case from both a legal and a medical standpoint. There is no question that Dr. D misdiagnosed the patient’s condition, and the misdiagnosis was a major contribution to the patient’s demise. Therefore, it might seem easy to conclude that Dr. D committed malpractice; however, from a purely legal standpoint, that conclusion might not be correct.

The verbiage differs somewhat from state to state, but the general definition of “medical
“malpractice” involves the practitioner failing to conform to what a reasonable person who is comparably trained would do or not do under the same or similar circumstances. The key point is that the physician does not have a duty to get every diagnosis correct; rather, he/she has a duty to act reasonably. Further, what is considered “reasonable” must always be evaluated in the context of all of the circumstances.

Given the rarity of this patient’s condition, the defense experts were supportive of Dr. D and did not feel her treatment of this patient fell below the standard of care — even with the misdiagnosis. They stated that she was attentive to the patient and acted quickly and decisively when conditions changed. However, the defense experts noted that they would have felt better if Dr. D had requested that a neuroradiologist read the patient’s MRI results from December 30. They felt that a neuroradiologist would have been more likely to identify subtleties in the image that indicated an abscess.

Should Dr. D have been suspicious of an infectious process because the patient delivered a baby 10 days earlier? The plaintiff’s experts certainly thought so, but the defense experts were somewhat equivocal on this point.

A close examination of the patient’s health record showed that the neuro ICU nurses did not perform well in recognizing the patient’s deteriorating condition during the early morning hours of January 5. As a result, they did not alert Dr. D as promptly as possible, creating significant liability exposure for the hospital.

Ultimately, a payment was made on behalf of Dr. D, even though the defense experts did not feel that she had deviated from the standard of care. A couple of factors contributed to this outcome. First, the plaintiff’s experts were adamant that the misdiagnosis, even under these circumstances, constituted a clear deviation from the standard of care. This left the jury in the unenviable position of trying to decide an issue of highly technical medicine based on the believability of opposing experts (i.e., the classic “battle of the experts”).

Second, situations occur in which juries find in favor of plaintiffs because they simply cannot see past the human tragedy involved. In this case, a young mother of four died from a condition that potentially could have been treated if it had been properly diagnosed. As such, this was a risky case to take to trial.

Finally, it is worth noting that the settlement for Dr. D is considered quite modest, given the totality of the potential damages.

**Summary Suggestions**

The following suggestions might help clinicians prevent diagnosis-related errors.

- Give special consideration to any differential diagnosis that might produce catastrophic results if not promptly identified and that potentially could be treated successfully if identified early.
• Ensure that appropriate expertise is requested for consults. For example, in this case, having a neuroradiologist review the patient’s MRI results (rather than a general radiologist) might have resulted in a different outcome for the patient.

• Carefully review the patient’s history to identify any circumstances in which he/she might have acquired an infection. The experts in this case were uncertain about whether the patient’s recent pregnancy had any causal relationship to her brain abscess.

• Clearly communicate to attending nursing staff the expectation for notifications regarding any changes in a patient’s condition, particularly if the facility does not have thorough notification protocols.

Conclusion

In complex medical care, as in most complex endeavors, the saying “the devil is in the details” often holds true. Factors that alone might not be significant, such as miscommunication or a suboptimal consultation, can combine to produce an avoidable, catastrophic outcome. At a minimum, careful retrospective analysis of these types of cases can produce process changes that might help reduce the potential for such tragedies.