

Treatment Delays Cause Complications Following Cerebrovascular Accident, Resulting in Brain Damage; Malpractice Lawsuit Follows

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Introduction

Inpatient healthcare facilities have a system of “codes” that indicates the presence of circumstances requiring specific, immediate responses. These code systems have been effective in improving operational efficiency and patient outcomes. However, for them to work as intended, all relevant staff must understand and properly execute these code systems. In this interesting case from the Northwest, confusion throughout the patient’s treatment possibly contributed to a poor outcome.

Author’s note: In this case, the treating hospital had a specific protocol termed “code orange,” which indicated the possibility of a cerebrovascular accident (CVA). Under this protocol, a specialized team would respond, and the patient would receive first priority for access to all imaging, testing, and provider consulting.

The hospital policy stated that code orange was initiated “with the intent of providing a better outcome for patients suspected of having a stroke.”

Facts

The patient was a 40-year-old male, whose relevant medical history included former tobacco use and uncontrolled diabetes. In the days leading up to his hospitalization, he complained of some dizziness, including one time when he had to sit down to avoid falling.

On Day 1, he developed an acute episode of chest pain, resulting in him presenting to the defendant hospital’s emergency department (ED). After initial stabilizing treatment, the patient was transferred to the intensive care unit (ICU), where he underwent a cardiac catheterization that indicated no significant cardiac vessel obstruction. Following the

completion of this test, while still in the ICU, the patient complained of right-sided facial numbness. His attending nurse, Nurse V, conducted a complete neurological examination, which showed him to be otherwise neurologically intact. After completing the neurological exam, Nurse V contacted Dr. S (a MedPro-insured internal medicine specialist), who was covering the ICU from home. According to the nurse's documentation, at 5:10 p.m. Dr. S ordered "STAT CT of head to rule out CVA. No code orange."

Following Nurse V's phone call to Dr. S, there appears to be considerable confusion regarding whether a code orange had been initiated or not. Although Nurse V's documentation indicated that it had not been initiated, the order transcribed by the unit clerk could have been interpreted as initiating one (it stated: "CT brain code orange w/o routine CVA, stroke"). Further, one of the code orange nurses documented that he had responded to a code orange in the ICU.

In any case, the CT was ordered STAT, but that did not occur. Although Nurse V received the order at 5:10 p.m. and formally entered it at 5:17 p.m., the CT was actually performed at 6:22 p.m. The patient returned to the ICU at 6:45 p.m. and had a bout of nausea and

vomiting, which Nurse V did not report to Dr. M (another internal medicine specialist who was now supervising the ICU, but was also not onsite). The interpretation of the CT was not completed until 7:29 p.m., and the CT report was not transmitted to the ICU until 7:40 p.m. (after the ICU staff called the radiology department to investigate the delay).

At 7:20 p.m. the patient indicated to Nurse V that he could not move his left arm, and she formally initiated a code orange. The code orange team's evaluation of the patient at 7:30 p.m. showed right tongue deviation, right facial droop, moderate weakness of the right extremities, and severe weakness of the left extremities. Also, at 7:30 p.m. Dr. M ordered an immediate neurology consult.

When the CT report was received, it stated: "an abnormal zone of low attenuation involving the right-sided cerebellar hemisphere, concerning for age, indeterminate ischemic insult. Consider MRI of the brain to further characterize." Interestingly, Dr. A, the responding neurologist (who also was not onsite) documented that the code orange had been initiated at 7:47 p.m., 27 minutes later than actually occurred. This further contributed to the confusion regarding when treatment was rendered, and by whom.

At 8:00 p.m. the patient was described as being in a semi-comatose state, with his left pupil at 4 mm, round and sluggish, and his right pupil at 2 mm, round and sluggish. Dr. A ordered a CT/CT angiography (CTA) of the head and neck, which she reviewed remotely. In her notes, she documented: “Given the patient had a recent arterial puncture and admitted with myocardial infarction, the patient was not a candidate for IV t-PA.”

At 8:45 p.m. the patient was unresponsive and his pupils were worse; Dr. A was notified. At 8:56 p.m. a member of the code orange team documented Dr. A as saying that there “was nothing to account for the neuro changes in the patient.” At 9:14 p.m. Dr. M arrived onsite and assumed direct patient care. At 9:49 p.m. the patient vomited again, and he was intubated.

At 11:20 p.m. the patient was transported to the MRI suite for imaging. The MRI report indicated “basilar artery thrombosis, resulting in non-hemorrhagic infarcts of the pons and bilateral hemispheres.” At 4:00 a.m. on Day 2, the patient was taken to surgery for revascularization of the basilar and cerebellar arteries.

By 8:00 a.m. on Day 2, the patient was decerebrate posturing bilaterally, his right corneal reflex was absent, and both pupils were

nonreactive. Following emergency decompression surgery, the patient was described as nonresponsive (including to painful stimuli), with no gag reflex. He was eventually transferred to hospice care and died 6 days later.

A medical malpractice lawsuit was commenced against Drs. S, M, and A, and the hospital. The results of that lawsuit will be discussed below.

Discussion

This case represents what some might call the “perfect storm” of miscommunication, misunderstanding, and suboptimal performance. Ultimately, these missteps did not result in harm to the patient (this will also be explained in detail below), but valuable insights can still be gained from a close analysis.

The defense experts were somewhat supportive of the care Dr. S rendered to the patient. His supervision of the patient’s care was very limited. Although the patient had been in the ICU for several hours while receiving his cardiac assessment (and therefore technically under the supervision of Dr. S), a cardiologist was overseeing the cardiac care.

Dr. S was not onsite when the ICU Nurse V informed him about the patient’s first symptom of a neurological issue (facial numbness). His decision not to initiate a code orange was

viewed as being within the standard of care; however, the defense experts speculated that if he had initiated it, the subsequent delays in the imaging process would possibly have been avoided.

Dr. S's order for a STAT CT indicated some degree of concern, and the experts assumed a plan for further management. However, Dr. S's failure to see the patient in person, review the CT results when they were returned, and brief Dr. M regarding his plan of care (combined with nearly nonexistent documentation) left Dr. S looking somewhat neglectful.

Nurse V's care was, for the most part, appropriate. She promptly recognized the symptoms of a CVA (the facial numbness) and reported it to Dr. S. However, she did not report the first episode of vomiting to any physician or to the nurse who relieved her at 8:00 p.m.

The defense experts were somewhat critical of the radiologist. They noted that the code orange protocol required the radiologist to immediately contact the attending physician with the imaging results; however, a code orange was not initiated until 7:20 p.m. (after the radiologist had read the images). In any case, when the radiologist observed the severity of the patient's condition on the CT, a phone

call to the attending physician would have been appropriate.

The defense experts noted that Dr. A (the consulting neurologist) apparently misread the original CT results (which she reviewed before the radiologist's report, not seeing the evolved infarct). They also felt it would have been a best practice for her to see the patient in person, rather than handle the case remotely.

The only criticism stated against Dr. M was that he did not come to the patient's bedside until more than 3 hours after assuming management of the patient at 6:00 p.m.

Ultimately, the experts opined that, if the code orange had been initiated sooner (and the protocol had been followed), most of the missteps described previously may not have occurred.

One might expect a case such as this (with several procedural shortcomings and the death of a 40-year-old patient) to result in substantial compensation to the plaintiffs. However, in this case, the plaintiffs faced a significant legal impediment.

In tort law (which is how medical malpractice cases are normally litigated), the plaintiff must prove what the standard of care was and how it was breached. The plaintiff must also show that the patient was injured (which certainly

includes death). However, a fourth element also must be proven: legal causation. Legal causation means that the breach of the standard of care directly caused (or at least substantially contributed to) the patient's damages. In this case, the plaintiffs would not likely have been successful in proving causation.

The neurovascular experts indicated that the type of CVA the patient suffered was uncommon, and more importantly, certain to produce death or profound disability. This type of CVA produces little, if any, physical symptoms until severe damage has already occurred. They opined that the patient had begun his downward spiral earlier in the week, when he began to feel dizzy, and the symptoms that brought him to the ED were from the CVA, not a myocardial infarction (MI) (although it was reasonable to suspect a MI). In their opinion, by the time the initial CT was performed, the patient was essentially nonviable. Whatever deviation from the standard of care might have been proven, it was clear that it did not alter the ultimate outcome.

Because of this legal impediment, at the conclusion of discovery, the three physicians were dismissed from the case without a payment. The hospital was also dismissed after a payment in the low range (it is suspected that

the hospital was worried about a "sympathy verdict" in spite of the evidence, or just wanted to avoid any publicity associated with a trial). Defense costs for Dr. S were in the mid-range.

Summary Recommendations

The following recommendations may assist healthcare providers and organizations when multiple providers are involved in the care of critically ill patients:

- Develop treatment protocols that contain clear, concise, easy-to-follow instructions, and that can be accomplished consistently. Review protocols on a regular basis and revise as necessary to ensure they remain up to date with current standards. Such protocols may be used to try to define the standard of care for treatment of a condition in question, and full compliance may be required to be proven when a professional liability case is defended.
- Ensure that whenever care is transitioned, either from physician-to-physician, nurse-to-nurse, or any other transition, that the handoff includes communicating specific and thorough information regarding the patient's current status, any pending test or imaging results, and the care plan going

forward. A handoff to a different provider is a vulnerable time for the patient because it introduces the possibility of miscommunication and errors.

- Use standardized sign-out checklists to remind healthcare providers about important patient information to communicate to the next provider, such as the patient's diagnosis, medical history, lab/test results, recent changes in condition, current stage of treatment, and potential complications.
- Implement a structured communication process for handoffs and signouts to ensure critical patient information is consistently communicated. Examples of transfers and handoffs include a transfer of a patient between primary and acute settings, a transfer of a patient between departments, a transfer of patient care during a shift change, and a transfer of patient care between providers. A number of techniques and communication tools have been developed to provide a reliable structure, including Situation-Background-Assessment-Recommendation and Request ([SBAR](#)), [I PASS THE BATON](#), and [I-PASS](#).
- Ensure that the transcription of orders between units is accurate. Implement a

review process for orders when patients transition through various levels of care or departments to ensure they are completed timely. Use functions within the electronic health record (EHR) system to ensure completion of orders, such as test results, consultations, or referral reconciliation.

- Develop and implement patient selection criteria and standardized clinical protocols to ensure consistency, quality, and efficiency of care for telemedicine. Although telemedicine (in its various forms) is a well-accepted method of care, the provider should be sensitive to when the patient would optimally benefit from in-person treatment.
- Implement a process for communicating abnormal, critical, significant, and/or incidental findings. When “panic values” or other severe abnormalities are identified, direct physician-to-physician communication is optimal. Documentation in the EHR should reflect the communication of the findings and action taken in response if indicated.
- Ensure healthcare staff members are aware of the organization's policies and procedures related to patient monitoring. Communication should be clear and

concise regarding clinical findings and other care-related information. The EHR documentation is important in communicating information to all members of the healthcare team. Patient monitoring is a key component of patient care. Lapses in patient monitoring and failures in communicating changes in a patient's condition have the potential to lead to gaps in care and adverse outcomes.

Conclusion

As medicine becomes ever more sophisticated and complicated, the number of providers involved in individual cases tends to increase, causing the potential for miscommunication and error to also increase. Common understanding of the critical elements of the case is essential for an optimal patient outcome.

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