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Differentiating disorders of consciousness

Communication may be helpful to patients' recovery

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By Michelle Dalton

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Consciousness, or the lack of it, is a tricky topic for even the most alert clinician. Researchers and clinicians alike have been confounded by trying to identify which apparently unconscious patients will respond to outside stimuli, when they might respond, and how this variability should factor into an overall treatment plan.

But now experts are defining more precisely various disorders of consciousness (DOC), which range from acute coma to vegetative or minimally conscious states (MCS). In particular, there is new evidence about patients' awareness in the last of these states.

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“Many patients who are in these more long-term states of DOC really do respond to cues that are familiar to them,” said S. Andrew Josephson, MD, acting chair of the department of neurology at the University of California, San Francisco.

In a recent study, patients in MCS who heard customized recordings of stories told by people close to them anywhere from 29 to 170 days after a traumatic brain injury showed



increased neural responsivity to vocal stimuli compared with patients who were treated in silence, according to results published by *Neurorehabilitation and Neural Repair* in January.

The findings provide hospital physicians with “something families can latch onto and do in the intensive care units,” said Theresa Louise-Bender Pape, DrPH, MA, a clinical neuroscientist with the Department of Veterans Affairs Center for Innovation in Complex Chronic Healthcare and Research Service in Hines, Ill., who led the study.

“When hospitalists are attending to these patients, we advocate having family members talk to the patient,” she said.

Diagnostic challenges

It's important that hospitalists know whether they're treating a vegetative patient or one in an MCS, said Joseph J. Fins, MD, MACP, chief of the Division of Medical Ethics at Weill Cornell Medical College and co-director of the Consortium for the Advanced Study of Brain Injury, both in New York City, and the author of a forthcoming book about issues surrounding disorders of consciousness. The states are distinguished from each other using neuropsychiatry studies, particularly the Coma Recovery Scale-Revised.

A vegetative state is considered permanent a year after a traumatic brain injury or 3 months after anoxic brain injury. Until those thresholds are reached, patients can become minimally conscious, Dr. Fins said, but researchers have yet to determine which MCS patients will emerge and start talking and consistently responding, and when that may occur in the recovery process.

Studies performed about a decade ago “showed when you talk to MCS patients, even though they looked inert and in a vegetative state, they actually had this capability on neuroimaging to be responsive to language,” Dr. Fins said. Further, when MCS patients do respond, it's often unreliably, meaning the patient may follow a command one day but not the next. “This can confound diagnosis,” he explained and may be difficult for physicians to explain to family members.

Misunderstanding the various states “can lead to a lot of misdiagnoses. Studies have shown between 20% and 40% of people in nursing homes diagnosed as vegetative were actually MCS,” Dr. Fins said.

By the time patients have progressed to MCS, it's likely they will have been transferred from the acute hospital to a rehab hospital or long-term acute care, said Brent E. Masel, MD, national medical director at the Brain Injury Association of America. They may return to the hospital, however, if they develop an acute condition, such as pneumonia or a urinary tract infection.

Although hospitalists are not typically charged with making distinctions in unconscious states, they should be very aware of them. “Using and explaining diagnostic categories correctly, when either speaking with other professionals or with patients' families, is incredibly important. Whether needed to convey accurate diagnoses or assist a family in making significant decisions, using the right words the right way is key,” Dr. Fins said.

Communication

Experts and researchers can use advanced techniques to determine whether patients are in a state where they can respond to communication.

“Names of loved ones who are spoken to the patient may trigger a response that's seen either with sophisticated [electroencephalogram] techniques or with functional MRI. This has allowed us to reclassify many of these patients as having more preserved consciousness than we thought previously,” said Dr. Josephson.

Physicians and families working without these advanced tools should err on the side of assuming that patients are aware, experts said. “Always presume the patient understands. We don't know if the patient does or does not understand,” Dr. Masel said.

“Hospitalists and neurologists who are caring for these patients really need to consider the possibility that these patients can understand some elements of what's going on around them,” Dr. Josephson agreed.

He advises that clinicians speak to the MCS patient as they would to someone who is fully conscious. “Be careful when you're speaking to the patient,” Dr. Josephson said. “Identify who you are and what your role is, what you're about to do—especially if it involves any kind of exam.”

Families should also be advised to consider a patient's awareness in their conversations in the room. Dr. Josephson encourages family members to speak to patients, to reassure them, and to speak with and to the patient in comforting ways.

“Always discourage families from discussing negative outcomes,” Dr. Masel said. In other words, don't let the family discuss how they're going to split up Uncle Bob's fortunes in front of him any more than the medical staff would discuss a poor prognosis, he added.

For Dr. Pape, it's crucial that family members tell the patient a story from his or her past rather than, for example, read a current newspaper. If memories are made to “come to life,” patients are more likely to respond, she said. Having the family record the story may help as well, she said, as the hospitalist can provide headphones to the patient so the stories run in a loop. The Familiar Auditory Sensory Training (FAST) protocol in her study also used stories that included both the patient and the storyteller.

It's still unclear what topics may impact the patient the most, Dr. Josephson said. It is common research practice to use familiar voices and narratives with meaningful, emotional content for the patient as that seems to be able to more readily activate a response, according to Dr. Fins.

Dr. Masel believes the key is the familiar voice rather than a particular story. “Assume the patient hears everything, assume the patient knows everything,” he said.

The communication effort may benefit families, regardless of whether it affects an individual patient's recovery. Studies that show some kind of response to stimuli are “very reassuring to families for us to tell them that their loved ones may understand and hear them in some ways, even though they can't respond,” Dr. Josephson said. Families need to feel they can make a difference in the patient's recovery process, he added.

Down the road

Despite the research advances in the field, there's still no “magic way” to communicate with patients in these situations, noted Dr. Josephson. “We don't have approved medicines or treatments that will allow all patients to miraculously ‘wake up,’ but we are understanding more about how the brain reacts to injury,” he said.

According to current data, somewhere between 6 and 12 months after traumatic brain injury, the chances of a “dramatic neurologic recovery” become incredibly thin, but continued small gains are still possible, Dr. Josephson said. This information may help family members make decisions about treatment, including whether or not to adhere to a patient's do-not-resuscitate request.

Dr. Pape plans additional research into communicating with unconscious patients, analyzing the differences between patients who were injured in motor vehicle crashes and those injured in bomb blasts or assaults to determine if one type of injury generally responds better than another.

“There's still a lot we don't know about brain injuries,” Dr. Pape said. “But when asked whether there's a therapeutic effect to communicating with and to patients, the answer is, ‘Yes.’”

Michelle Dalton is a freelancer in Reading, Pa.

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Additional reading

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