

Misdiagnosis of disorders of consciousness still commonplace

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A sixteen-month study of consensus-based diagnosis of patients with disorders of consciousness has shown that 41% of cases of minimally conscious state (MCS) were misdiagnosed as vegetative state (VS), a condition associated with a much lower chance of recovery. Researchers writing in the open access journal *BMC Neurology* have demonstrated that standardized neurobehavioral assessment is more sensitive than diagnoses determined by clinical consensus.

Steven Laureys, from the University of Liege, Belgium, worked with a team of researchers, including Caroline Schnakers and Joseph Giacino, to compare consensus-based diagnoses of VS and MCS to those based on the JFK Coma Recovery Scale-Revised (CRS-R), a well-established standardized neurobehavioral rating scale. Laureys said, "Differentiating the vegetative from the minimally conscious state is often one of the most challenging tasks facing clinicians involved in the care of patients with disorders of consciousness. Misdiagnosis can lead to grave consequences, especially in end-of-life decision-making".

The researchers prospectively followed 103 patients with mixed etiologies and compared the clinical consensus diagnosis provided by the physician on the basis of the medical staff's daily observations to diagnoses derived from the CRS-R. They found that of the 44 patients diagnosed with VS based on the clinical consensus of the medical team, 18 (41%) were found to be in MCS following standardized assessment with the CRS-R. According to Laureys, "It is likely that the examiners' reliance on unstructured bedside observations contributed to the high

rate of misdiagnosis of VS patients. Unlike traditional bedside assessment, the CRS-R guards against misdiagnosis by incorporating items that directly reflect the existing [diagnostic criteria](#) for MCS, and by operationalizing scoring criteria for the identification of behaviors associated with consciousness".

The researchers conclude, "The results of this study suggest that the systematic use of a sensitive standardized neurobehavioral assessment scale may help decrease diagnostic error and limit diagnostic uncertainty".

More information: Diagnostic accuracy of the vegetative and minimally conscious state: Clinical consensus versus standardized neurobehavioral assessment, Caroline Schnakers, Audrey Vanhaudenhuyse, Joseph Giacino, Manfredi Ventura, Melanie Boly, Steve Majerus, Gustave Moonen and Steven Laureys, *BMC Neurology* 2009, 9:35
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