Mental status alterations can be stressful for patients and their families and pose a challenge for the clinician to diagnose and manage emergently. The alteration may range from clouding of consciousness, confusion, agitation, and fussiness to lethargy, stupor, and coma. The clinician must quickly develop a wide differential of possible etiologies to provide life-saving interventions. The differential diagnosis of mental status changes in children is broad and, among others, includes trauma, toxicologic, neurologic, gastrointestinal, infectious, and psychiatric etiologies.

This issue of Pediatric Annals contains four articles that discuss some of the leading causes of altered mental status, including traumatic brain injury, metabolic-hyponatremic dehydration, psychiatric, and toxicologic issues. In addition to obtaining the history of presenting illness, it is imperative to have a structured approach to management of all undifferentiated cases, starting with assessment of airway, breathing, and circulation followed by intravenous access and laboratory testing.

Traumatic injuries to the head are a leading cause for seeking medical attention. The injuries may be range from minor to life-threatening and present with a variety of mental status changes. There is media attention and growing literature on sports-related concussions. Importantly, the trauma may be of accidental or nonaccidental etiology, especially in younger children. In the first article “Altered Mental Status in Children After Traumatic Brain Injury,” Drs. Vivek Dubey, Eric Nau, and Marc Sycip discuss the latest literature on traumatic brain injury including pathophysiology, evaluation, and management, as well as prevention and prognosis after a severe injury. The authors emphasize the importance of maintaining a high index of suspicion for trauma as an etiology for altered mental status.

Mental status changes in neonates can present unique challenges and require casting a broad diagnostic given unique vulnerability at this early age. In the next article, “Neonatal Hyponatremic Dehydration,” Drs. Arjun Sarin, Andrew Thill, and Clay W. Yaklin discuss the problem of hyponatremic neonatal dehydration outlining the risks, presentation, diagnosis, and treatment. This underrecognized condition occurs most commonly in exclusively breast-fed infants who may not receive adequate free water. The differential diagnosis of this condition is wide and includes sepsis, meningitis, intracranial hemorrhage, congenital heart disease, accidental salt poisoning via incorrect formula preparation, metabolic abnormality, or mineralocorticoid axis alteration. Physicians and parents should pay particular attention for the signs and symptoms of feeding difficulties and ideally all families will have access to regular lactation services during the first 2 weeks of life to minimize the risk of hyponatremic dehydration. The authors highlight the importance of having a high index of suspicion for this condition.

There has been a large increase in the unscheduled and acute visits to pediatric offices and emergency departments for psychiatric and behavioral issues. Patients with a variety of psychotic disorders and mood disorders may present with altered mental status, and misdiagnosis is common because there is a significant overlap with other medical causes and may be further confounded by factors such as intoxications. In the third article “Psychiatric and Behavioral Causes of Altered Mental Status,” Drs. Courtney Esther Allen and Rebecca Kriss Burger discuss common presentation, differential diagnosis, and acute management of these patients. The authors make a compelling argument to consider these psychiatric diagnoses in the differential diagnosis to provide optimal care to these patients and their families.
Ingestions of medications and other toxic substances are a large category in the differential diagnosis of mental status changes in children. In the final article “Strychnine: Old Remedy, Silent Killer,” Drs. Moon Hee Hur, Vinod Havalad, and Christopher Clardy review a highly unusual and not often considered type of ingestion—strychnine. This plant-derived substance, once used for medical treatment of a rare inborn error of metabolism and as an indoor pesticide, has been banned in several countries but is still used for below-ground pest control in the United States. They emphasize that strychnine ingestion should be considered in patients who have seizure-like activity that does not respond to antiepileptics.

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