

August and the Central Nervous System

By Eric Hollander, MD

Since the times of Freud, the month of August conjures a tradition of rest and relaxation and a time away from our patients and other responsibilities. I too look forward to a variety of diversions, from a family vacation on Cape Cod, to a teaching foray in Tuscany.

Likewise, this month's *CNS Spectrums* provides a variety of diversions for our readers. These range from the impact of a glutamatergic modulator on habituation and amygdala activation, to the effect of unilateral forced nasal breathing on autonomic nervous system activity; and from the treatment of ischemic stroke with novel thrombolytic treatments, to the impact of pathological gambling (PG) on family function. Thus, we can choose from a pretty diverse menu for August reading.

It has recently become well known that adding D-cycloserine (DCS) to exposure therapy enhances fear reduction in anxiety disorders. Jennifer C. Britton, PhD, and colleagues studied the effects of DCS on amygdala activity during the processing of facial expressions, which may have relevance for testing anxiety treatments. The study's placebo group exhibited amygdala activation and response habituation, while the DCS group exhibited blunted amygdala responses to emotional faces across the experiment whereby habituation was not detected.

Izchak Kohen, MD, reported on two cases of serotonin syndrome in elderly patients during treatment of psychotic depression. In both cases, serotonin syndrome was produced by a combination of an antidepressant and an atypical antipsychotic. Clinicians should be aware of this potential.

While the National Institute of Neurological Disorders and Stroke trial of recombinant tissue plasminogen activator is a landmark study in the

acute treatment of ischemic stroke, unfortunately only small percentage of such patients presents to the hospital in time to receive the drug. In their article, Kiwon Lee, MD, and colleagues review numerous randomized clinical trials of different thrombolytics administered in various timeframes, as well as radiographic and intra-arterial thrombolysis, and angioplasty and stenting procedures.

Three different methods selectively activate one half of the autonomic nervous system. The first method is an ancient yogic technique called unilateral forced nostril breathing that employs forced breathing through only one nostril while closing off the other. The second method works by stimulation of an autonomic reflex point on the fifth intercostal space near the axilla. The most recent method employs unilateral vagus nerve stimulation via the mid-inferior cervical branch and requires surgical implantation of a wire and pacemaker. David S. Shannahoff-Khalsa, BA, reviews these three methods and discusses their similarities, putative mechanisms, and their implications for the treatment of psychiatric disorders.

Finally, PG is widely reported to have negative consequences on marriages, families and children. However, empirical evidence is only now accumulating, and much information rests on anecdotal observations. Martha C. Shaw, BA, and colleagues provide the evidence on the impact of PG on families, marriages, and offspring, and make recommendations for future research targeting these problems.

Thus, from smart drugs to enhanced psychotherapy, to new methods to unblock arteries and treat stroke, our field continues to strive to create breakthrough treatments and understand their underlying mechanism of action. **CNS**