

Amygdala Morphometry in Affective Disorders

TO THE EDITOR: In their interesting review article on hippocampal and amygdala volumetry, Stephanie Campbell, Ph.D., and coworkers (1) reported that inclusion of the amygdala with the hippocampus obscures volumetric findings. However, besides the technical argument, there are other strong points why the amygdala and hippocampus should not be measured as a single structure. Besides the studies mentioned in the review, there are even more reports of increased amygdala volumes in depressive (2, 3) and other (4) affective disorders. Thus, including possibly increased amygdala and decreased hippocampal volumes within one measurement obviously decreases the sensitivity of a method. Besides, the basolateral amygdala is a functionally and anatomically distinct structure (5) that is assessable in a reliable way with modern magnetic resonance imaging technology (6) and should therefore not be mixed up with the hippocampus.

Furthermore, the authors point out that clinical variables, such as duration of illness or presence of abuse, may account for much of the variance of the volumetric findings, whereas factors such as slice thickness or other scan parameters were not so important. However, another confounding clinical factor that might be even more important is medication. There is evidence that psychotropic medication might affect the volume not only of the amygdala (7) but also of the hippocampus (8). Thus, medication should be controlled when we measure amygdala or hippocampal volumes in affective and other neuropsychiatric disorders.

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Dr. Campbell and Colleagues Reply

TO THE EDITOR: Dr. van Elst makes valid points regarding the issue of measuring amygdala volumes in patients with depression. The focus of our analysis was the hippocampus, and therefore, we did not review the literature on amygdala volume measurements independent of the hippocampus in detail. There are several studies focusing exclusively on amygdala volumes, including one examining core amygdala volumes, which recognize not only the difficulty of imaging various nuclei of the amygdala but also the relevance of the fact that there are distinct functional differences between nuclei (1). Perhaps the most intriguing point that Dr. van Elst makes is that medication effects need to be examined in future studies. A recent preliminary report in this *Journal* (2) suggests that volumetric reduction of the hippocampus may be more a function of time spent ill and untreated than time spent ill and treated. Apart from this report, however, there is little known about the long-term impact of antidepressant or other psychotropic medications on specific brain regions, despite the increasing body of preclinical literature suggesting that some psychotropic medications may have neuroprotective effects and that long-term pharmacotherapy in patients with mood disorders may improve outcome. Harvey and colleagues (3) recently highlighted another important issue regarding medication, that is, the effect of repeated antidepressant withdrawal on brain regions such as the hippocampus. It is also apparent from their review that there are few data to inform us regarding the long-term effects of repeated trials and subsequent withdrawals of antidepressant medications. Despite the current lack of information describing the long-term effects of psychotropic medications on brain morphometry, we fully agree with Dr. van Elst that this is an important area for future study.

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Stress Disorder After Traumatic Injury

TO THE EDITOR: We read with interest the recent article by Meaghan L. O'Donnell, Ph.D., et al. (1) that reported psychopathology after traumatic injury and found a low rate of acute stress disorder (1%). Our group has also been interested in psychiatric disorders related to traumatic injury, and we appreciate the authors citing our study (2). We believe that the report of Dr. O'Donnell et al. of significant rates of posttraumatic stress disorder (PTSD) and depression after injury and the discussion of potential confounders to the assessment of dissociation are informative contributions to the literature.