Lecture 17  Tuesday, July 10
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Hippocampal-prefrontal synchrony in psychiatric disease models

ABSTRACT

The hippocampus interacts with the prefrontal cortex during both cognitive and emotional tasks. We have used multisite multiunit and field potential recordings in awake mice to examine the dynamics of these interactions in mice carrying genetic mutations of relevance to psychiatric disease. We have demonstrated deficits in hippocampal-prefrontal synchrony in a mouse model of a common copy number variant, the 22q11.2 microdeletion, which predisposes to schizophrenia. We have also shown enhanced synchrony in this circuit during anxiety in serotonin 1A-receptor mutant mice, a model of increased anxiety. Together these findings point to the importance of these long-range interactions in governing complex behaviors.

REFERENCES


BIOSKETCH

Dr. Joshua Gordon is an Assistant Professor in the Department of Psychiatry at Columbia University, and the New York State Psychiatric Institute, in New York, NY. He obtained is M.D. and Ph.D. degrees from the University of California, San Francisco, and completed a psychiatry residency and research fellowship at Columbia prior to joining the faculty in 2004. He has received several grants and awards, including an Rising Star Award from the International Mental Health Research Organization (IMHRO), and the A.E. Bennett Research Award from the Society for Biological Psychiatry. His work is currently supported by grants from IMHRO, the Hope for Depression Research Foundation, and the NIMH.