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Recent advances and setbacks in biologically based therapeutics for drug addiction

The treatment of drug addiction is as complex and multifaceted as the disorder itself, ranging from individual and group therapy, cognitive-behavioral therapy, outpatient and residential treatment facilities, spirituality-based approaches, alternative and Eastern medicines, and biologically based therapies. Unfortunately, no single approach has proven to be effective across a wide range of patient populations. As there is increasing evidence that drug addiction is rooted, at least in part, in biological mechanisms, mainstream biomedical research on addiction has largely focused on the development of more efficacious pharmacological therapeutics, which thus far has proved to be largely elusive. Currently, there are no pharmacological agents approved by the U.S. Food and Drug Administration for the treatment of addiction to cocaine, methamphetamine and marijuana, and options for the treatment of opiate and tobacco addiction are largely based on replacement therapies. Furthermore, only three medications have been approved for the treatment of alcoholism, each of which has shown modest efficacy at best. The purpose of this presentation will be to provide a summary of recent developments and setbacks in the development of biologically based addiction therapeutics. Basic mechanisms and general clinical findings will be discussed with respect to newer or “repurposed” pharmacological agents, conjugated enzymes designed to reduce plasma drug levels, and vaccines designed to limit brain penetration of drugs of abuse.

Biography

M. Foster Olive completed his Ph.D. at the University of California at Los Angeles and conducted postdoctoral studies at Stanford University School of Medicine and the University of California at San Francisco. He is an Associate Professor in the Behavioral Neuroscience program in the Department of Psychology at Arizona State University. He has published more than 75 papers in reputed journals and serves as Editor-in-Chief of the Journal of Addiction Research and Therapy. Dr. Olive also serves on the editorial boards of The Open Addiction Journal and CNS & Neurological Disorders – Drug Targets.

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