

New therapies in the works to fight the opioid crisis

A battery of treatments may be the future of addressing opioid addiction, new research suggests

As just one measure of how devastating the opioid crisis has been in the US, estimates suggest that in 2017 alone, more Americans died from drug overdoses than died in the Vietnam War—and the majority of these are opioid overdoses.

Effectively addressing this epidemic will take a multi-faceted approach, according to Dr. Kurt Rasmussen, the Director of the Division of Therapeutics and Medical Consequences at the National Institute on Drug Abuse (NIDA), who will be presenting an analysis of current research at the American College of Neuropsychopharmacology annual meeting.

A small number of effective drugs exist to help people with opioid use disorder and prevent relapse, as well as to reverse acute overdose, but more are on the way. Dr. Rasmussen has previously proposed compounds that modulate glutamate receptors as novel treatments for opioid use disorder and will outline the most promising future therapies, which are in various states of readiness. Some therapies are still in the early stages of development, and some are already on the market. They include:

- **A Gpr151 antagonist.** Gpr151 is a receptor on certain cells of the brain known to be affected by opioids. Animals lacking the receptors are resistant to addiction-like effects of opioids. An antagonist that binds and “locks” the Gpr151 receptor is an intriguing prospect for treating opioid addiction, in part due to the exquisitely precise localization of the receptor in a very specific brain region critical for influencing the motivation to take opioids, says Dr. Rasmussen. An antagonist is now in the preclinical phase.
- **Antibodies.** Vaccines and antibodies are being developed to treat addiction to heroin and compounds in the fentanyl family, which are the largest family of synthetic opioids and known to be 100 to 10,000 times more potent than morphine. Monoclonal antibodies against certain opioids is a likelihood in the coming years, both as treatment for opioid addiction and as a prophylactic measure for those likely to come into contact with the compounds, such as emergency medical personnel. Proof of concept studies for opioid vaccines were presented at the 2018 ACNP annual meeting.
- **Suvorexant (Belsomra).** Suvorexant, sold under the trade name Belsomra, is an orexin-1, 2 receptor antagonist currently marketed for insomnia. Exciting new scientific findings indicate that the compound may also be useful for treating opioid use disorder, and clinical trials are currently underway.

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