

Non-opioid Adjunct Therapy

Augmenting opioid mediated pain management

Opioids still remain the cornerstone of moderate to severe pain management. However, there is a vital need to find an appropriate balance of providing the optimal analgesic effects, while minimizing the potential for addiction, overdose, and other negative side effects. One method of achieving this balance could be through the use of non-opioid adjuvants. Non-opioid adjuvants are drugs that enhance analgesic efficacy when used in conjunction with opioids and thereby reduce the required opioid dose (opioid sparing effect). However, there are still no effective opioid-sparing drugs that are commercially available.

The technology

Our researchers have developed a novel method of using non-opioid adjuvants in conjunction with a greatly reduced dosage of opioid. The method involves the use of a non-opioid adjuvant that targets the serotonergic system and boosts the analgesic effects of the opioids. As a result, the dose of opioid needed for effective pain management can be reduced by 75%. Additionally, this non-opioid adjuvant does not increase the addictive effects of the opioid, which further reduces the potential risk of addiction and other negative side effects. Animal models have demonstrated the effectiveness of our method using this non-opioid adjuvant, which has previously been tested and proven safe in humans. This combination of drugs could represent a breakthrough for addressing the opioid crisis by reducing the instances of opioid misuse and serving as a treatment for opioid use disorder.

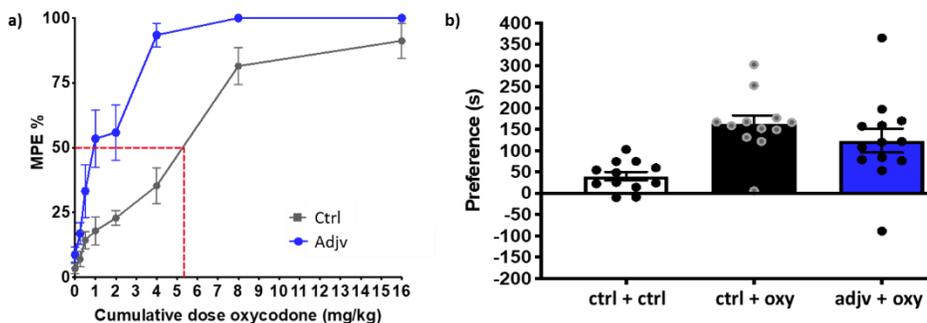


Figure a) Animals pretreated with the non-opioid adjuvant (Adjv) experienced an increase in the analgesic effects from a cumulative dose of oxycodone. Y-axis represents the analgesic response in % (0 =no analgesia, 100 = full analgesia), while the ED50 (red dotted line) represents the dose of oxycodone that induces a significant analgesic response in 50% of the population; **Figure b)** The adjv does not increase the addictive effects of oxycodone (oxy). Y-axis represents the number of seconds an animal spends in the area with drug.

Benefits

- » Significantly reduces the required dose of opioid
- » Enhances the analgesic effects
- » Minimizes the potential for addiction and overdose

Applications

- » Treatment of moderate to severe pain disorders
- » Treatment of opioid use disorder

Patent status:

Patent pending: U.S. and foreign rights are available.

License status:

This technology is available for licensing to industry for further development and commercialization.

Category:

Biomedical

VCU Tech #:

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