Uses of fluoxetine in nociceptive pain management: A literature overview

Ahmed Barakat, Mostafa M. Hamdy, Mohamed M. Elbadr

Abstract:

Fluoxetine is one of the top ten prescribed antidepressants. Other therapeutic applications were approved for fluoxetine including, anxiety disorders, bulimia nervosa, and premature ejaculation. However, the role of fluoxetine in nociceptive pain management is still unclear. In this review, we discuss an overview of five possible roles of fluoxetine in pain management: intrinsic antinociceptive effect, enhancement of acute opioid analgesia, attenuation of tolerance development to opioid analgesia, attenuation of dependence development and abstinence syndrome, and attenuation of opioid induced hyperalgesia. Conflicting data were reported about fluoxetine intrinsic anti-nociceptive effect in preclinical and clinical studies except for inflammatory pain. Similar controversy was described in preclinical and clinical studies which explored the possible enhancement of opioid analgesia by fluoxetine co-administration. However, fluoxetine was found to have a promising effect on opioid tolerance and dependence in animal and human studies. Regarding opioid induced hyperalgesia, no studies examined fluoxetine effects in this regard. Our literature review revealed that, the most likely beneficial use of fluoxetine in nociceptive pain management is for alleviation of inflammatory pain and attenuation of opioid tolerance and dependence. Nonsteroidal anti-inflammatory and corticosteroids carry many adverse effects and toxicities. Effective alleviation of opioid tolerance and dependence represents a huge health burden and growing unmet medical need. Moreover, most agents used to attenuate these phenomena are either experimental or poorly tolerable drugs which limit their transitional value. Fluoxetine offers an effective, safe, and tolerable alternative for management of both inflammatory pain and opioid tolerance and dependence presently available to clinicians.

Keywords:

Fluoxetine Pain management Opioid sparing effect Opioid tolerance and dependence Opioid induced hyperalgesia

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