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The Study of the Analgesic Activity of Fluoxetine and its Interactions with Morphine, Naltrexone and Ondansetron in Mice.

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ABSTRACT

Present study is conducted to evaluate analgesic activity of fluoxetine and to study its interactions with morphine, naltrexone and ondansetron in albino mice. The analgesic activity of fluoxetine (2, 5 & 10mg/kg) and its interactions with morphine (0.5mg/kg), naltrexone (5mg/kg) & ondansetron (1mg/kg) were studied by tail flick method. Fluoxetine at 2mg/kg did not produce significant analgesic effect but at doses 5 & 10 mg/kg produced significant dose dependent analgesia. Morphine in subanalgesic dose (0.5mg/kg) with fluoxetine 2mg/kg did not produce significant analgesia but produced highly significant analgesia with fluoxetine 5mg/kg. Naltrexone (5mg/kg) given as pretreatment with fluoxetine 5 & 10mg/kg significantly reduced the analgesic effect of fluoxetine. Ondansetron 1mg/kg pretreatment reduced analgesia produced by fluoxetine 5mg/kg significantly, but not that produced by 10mg/kg fluoxetine. Therefore it is concluded that fluoxetine produced dose dependent analgesic effect. As fluoxetine potentiates morphine analgesia, it is suggested that opioid analgesics may be given in low doses with fluoxetine in chronic pain management. Fluoxetine may be producing analgesic effect by acting through 'μ' opioid receptors as naltrexone blocked it completely. Serotonergic system may be also involved, as ondansetron blocked analgesic effect partially.

Keyword: Fluoxetine, Morphine, Naltrexone, Ondansetron, Tail flick, Analgesia

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