

Comparison of Antinociceptive activity of Fluoxetine with Aspirin in Albino Rats

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Abstract

Background: Pain is a complex unpleasant sensation and a very common phenomenon that has sensory-discriminative, cognitive-evaluative, and affective-emotional dimensions. The principal objective of the treatment of pain is to remove or abolish the cause of pain. But it is not always possible to do so. Hence, analgesics are used for the symptomatic treatment of pain. Finding newer and potent analgesics is an area of interest for many researchers with this background we in the present study tried to compare antinociceptive activity of Fluoxetine and Aspirin in Animal model (Albino Rats). **Methods:** Wistar albino rats (150-200 gms), bred in the Central Animal House National Institute of Nutrition, Hyderabad were used. The animals housed under standard laboratory conditions. Model for pain was Chemical induced pain using acetic acid in albino rats. The animals were acclimatized to laboratory conditions fifteen days before the test. Each animal was used only once in the experiment. Fluoxetine hydrochloride pure powder by Sigma Aldrich pharmaceuticals and Aspirin 3% was obtained from Dept of Pharmacy Lab KIMS Hyderabad were used during the study. **Result:** Pretreatment with Fluoxetine (5mg/kg,i.p.) 30 min. before the injection of acetic acid, delayed the onset(12.00 ± 1.67 min.), decreased the number of wriths (8.17 ± 0.75) and total duration of writhing (17.17 ± 1.47 min.) which are statistically significant in comparison to normal saline pretreated rats(onset 3.67 ± 1.03 min, number of wriths 11.67 ± 1.86 , total duration of writhing 23.33 ± 1.97 min.. Pretreatment with Fluoxetine (10mg/kg,i.p.) 30 min. before the injection of acetic acid, also delayed the onset(16.00 ± 0.98 min.), decreased the number of wriths (6.83 ± 0.75) and total duration of writhing (15.15 ± 1.05 min.) which are statistically significant in comparison to normal saline pretreated rats(onset 3.67 ± 1.03 min, number of wriths 11.67 ± 1.86 , total duration of writhing 23.33 ± 1.97 min). Pretreatment with standard drug Aspirin (100mg/kg,i.p.) 30 min. before the injection of acetic acid, delayed the onset($16.33.0 \pm 1.03$ min.), decreased the number of wriths (6.33 ± 0.82) and total duration of writhing (14.17 ± 0.75 min.) which are statistically significant in comparison to normal saline pretreated rats onset 3.67 ± 1.03 min, number of wriths 11.67 ± 1.86 , total duration of writhing 23.33 ± 1.97 min. **Conclusion:** The present study shows that Fluoxetine has antinociceptive effect in experimental animal models of pain by chemically induced Writhing test in albino rats. Fluoxetine has produced similar antinociceptive effect at doses of 10 mg/ kg when compared to Aspirin (100mg/Kg) in albino rats. Indicating Fluoxetine is more potent antinociceptive drug than Aspirin in the acetic acid induced writhing model in albino rats.

