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Short communications

Correlation between Two Parameters of Mice Behaviour in the Open Field Test

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SUMMARY

The open field test is being used extensively for the determination of different aspects of animal behaviour for over seventy years. The correlation between different behavioural parameters obtained in this test, although previously studied, is still debatable. Thus, we aimed to analyze and correlate behaviour scores to estimate the importance of individual parameters in this type of experiment. The open field test was performed on male BALB/c mice treated with either saline (10 ml/kg) or diazepam (2 mg/kg), one hour before the experiment. The behaviour scores (number of squares crossed and rearings performed) obtained either by video recording or direct observation, during a five-minute experiment, were compared using a t-test and were tested for correlation. As expected, diazepam caused an increase in the number of squares crossed and rearings performed by the animals. The number of rearings was statistically different between the groups monitored in two different ways. The correlations between the behaviour scores obtained in the two modes of monitoring for all groups were moderate/strong positive ones. The correlation analyses revealed that the amount of information conveyed by a single behaviour parameter, either the number of squares crossed or the number of rearings, could be sufficient to estimate the animals' motor activity in the open field test. Also, the results of this test could provide clues to very important piece of information in drug discovery, i.e. the general animal behaviour under the influence of CNS acting drugs in an experiment.

Key words: **open field test, behaviour score, correlation, diazepam**

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