connectivity of "prefrontal cortex to posterior parietal cortex" and "prefrontal cortex to visual cortex". This is obtained by subtracting the representative connectivity matrices of two groups.

Conclusion: Analysis of EEG recordings of a VSTM task showed slight differences in functional connectivity of prefrontal, posterior parietal and visual cortex. These regions are proved to have a role in memory, attention and vision, and be functionally affected by alcohol abuse.

Keywords: Alcohol; Visual Short Term Memory; EEG; Source Localization; Functional Connectivity;

Effect of GABA agonist, diazepam, on spatial working memory in animal model of rat

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Introduction: Spatial working memory is ability of animal to remember the location in which something is perceived, and to recall a series of visited locations. There are numerous literatures indicating benzodiazepines show adverse effects on different paradigms of learning and memory. This study was designed to investigate effect of diazepam on spatial working memory in rats.

Methods and materials: In present study two-trial Y-maze test was used to measure the spatial working memory. The apparatus was made of opaque plexiglas, with three arms (each was 25 ×15 ×80) placed symmetrically at a 120 degree (arm A, B and C). Each arm was decorated by different intra-maze cuesto facilitate identification by animal. Animals were daily treated for five consecutive days by i.p injection of diazepam (1.2 mg/kg) or its vehicle. Twenty four hours after last injection, at first trial arm C was blocked and rats were allowed to explor two other arms (A and B) for 10 minutes. After one hour, in second trial, arm C was uncovered and animals were allowed to explore all arms during 8 minutes. In each trial, frequency of entry and time spent in new arm (C) were recorded by ethovision software.

Result: In this study we found that in second trial, diazepam treated rats spent more time in arm C and showed a significant increase in alteration behavior compared with control group ($p < 0.05$). There was no difference between groups in the first trial.

Conclusion: The results of present study suggested that benzodiazepines probably have positive effect on working memory in rat.

Keywords: spatial working memory, Y-maze, diazepam