was used to confirm the statistically significant difference among groups at p-value of less than 0.05.

Results: It was clearly evident from the obtained data that, experimental test drug and standard drug, both had significant increase in onset ($p < 0.01$), decline in duration ($p < 0.05$), score ($p < 0.01$), and number of seizures in 1 hour time ($p < 0.05$) in pentylenetetrazole-induced seizure model tests. The various parameters including biochemical, immunohistochemical, histopathological, and oxidative stress (SOD, catalase, GPx, and lipid peroxidation) were found in favor of decreasing the neuronal excitability and protecting the neurons with the experimental test drug in group IV with statistical significance ($p < 0.01$) when compared with the control group. The above findings in group IV were consistent and comparable to the standard drug in group III ($p > 0.05$).

Conclusion: The t-type of calcium channel blocker had significant ameliorative effect on behavioral, biochemical, immunohistochemical, oxidative, and histopathological parameters in chemically induced seizure tests in Wistar albino rats.

A0037: Preclinical Screening of Antiepileptic Properties of Diltiazem in Chemically and Electrically Induced Battery of Seizures Tests in Laboratory Experimental Animal Models

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Objective: To screen the antiepileptic properties of diltiazem in chemically and electrically induced battery of seizures tests in laboratory experimental animal models.

Methods: In this study, Wistar albino rats were used as experimental animal models. The proposal was approved by the official bodies including Institutional Research Committee (IRC) and Institutional Animal Ethics Committee (IAEC). Experimental techniques were performed adhering to the CPCSEA guidelines. This study had a total of six groups, each group had six animals and the groups were group I: control for PTZ, group II: standard for PTZ (sodium valproate), group III: diltiazem for PTZ, group IV: control for MES, group V: standard for MES (diphenylhydantoin), and group VI: diltiazem for MES. Various statistical tests including one-way ANOVA followed by Bonferroni's post hoc test and Kruskal–Wallis test followed by Dunn's post hoc test were applied, wherever applicable to find the statistically significance levels.

Results: It was seen that, the experimental test drug (diltiazem) was able to increase the onset of seizures when compared with the control group (group I) with p < 0.001. Similarly, the standard drug in group II also had similar Results. Other parameters like duration of seizures, number of seizures in 1 hour and score of seizures were significantly

reduced in both the experimental test and standard drugs (groups II and III) when compared with the control group ($p < 0.05$). The obtained above Results in group II were comparable to group III. In electrically induced MES model, as expected in group V, none of the animals exhibited Tonic Hind Limb Extension (THLE). In diltiazem experimental test drug group, more than 80% of animals were protected against the THLE. Again in this model, there was a significant reduction in scores of seizures in both the groups (V and VI) when compared with their parent control group ($p < 0.01$).

Conclusion: Diltiazem exhibited significant antiepileptic properties in chemically and electrically induced battery of seizures tests in laboratory experimental animal models.

A0038: Predicting Verbal Memory Outcomes after Anterior Temporal Lobectomy

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There is considerable concern regarding verbal memory decline (estimated rate of 44% measured by test scores), after dominant temporal lobe surgery (Sherman et al, 2011). It is important to delineate factors that predict postsurgical memory decline as epilepsy surgery is an elective procedure, and patients need to understand relative risks and benefits of the procedure.

Aim: To study the factors predicting postoperative verbal memory outcome.

Method Retrospective data analysis of 233 adult patients who underwent anterior temporal lobectomy (115 left, 118 right) and had a 1-year postsurgical follow-up evaluation. Multiple regression analysis was performed with the dependent variable being postsurgery verbal memory test score, and multiple independent variables being demographic, seizures, surgery side, mood issues, subjective memory complaints, intelligence quotient (IQ), and preoperative verbal memory test scores. Reliable Change Index scores were used to identify patients who experienced a significant decline in verbal memory functioning.

Results: Eleven percent ($n = 26$) patients demonstrated a significant postoperative decline in verbal memory as per RCI score calculations. Fifty-six percent ($R2 = 0.56$, $p < 0.001$) of the variance in the data was explained by the predictor variables; with side of resection ($p < 0.001$), preoperative memory scores ($p < 0.001$), and preoperative IQ ($p < 0.01$) as the most significant factors.

Conclusion: Preoperative verbal memory score, IQ, and the side of surgery appear to be risk factors for developing a verbal memory decline postsurgery. Evaluating patients on standardized neuropsychological tests pre-surgery is critical to identify patients at risk and to guide the preoperative counseling and plan the postoperative memory rehabilitation.