

عنوان مقاله:

Online analysis of local field potentials for seizure detection in freely moving rats

محل انتشار:

مجله علوم پایه پزشکی ایران، دوره 23، شماره 2 (سال: 1398)

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خلاصه مقاله:

Objective(s): Seizure detection during online recording of electrophysiological parameters is very important in epileptic patients. In the present study, online analysis of field potential recordings was used for detecting spontaneous seizures in epileptic animals. Materials and Methods: Epilepsy was induced in rats by pilocarpine injection. During the chronic period of the pilocarpine model, local field potential (LFP) recording was run for at least 24 hr. At the same time, video monitoring of the animals was done to determine the real time of seizure occurrence. Both power and sample entropy of LFP were used for online analysis. Results: Obtained results showed that changes in LFP power are a better index for seizure detection. In addition, when we used one hundred consecutive epochs (each epoch equals 10 ms) of LFP for data analysis, the best detection was achieved. Conclusion: It may be suggested that power is a suitable parameter for online analysis of LFP in order to detect the spontaneous seizures correctly.

کلمات کلیدی:

Entropy, Local field potentials, Pilocarpine, Power, Seizure detection

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