عنوان مقاله:

The Correlation of Signal to Noise Ratio Value on DPOAE with Malondialdehyde Levels in Rattus Norvegicus Diabetes Model

محل انتشار:

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خلاصه مقاله:

Abstract Introduction: The aim of this study was to determine the correlation of the signal-to-noise ratio (SNR) value on distortion product otoacoustic emissions (DPOAE) examination with malondialdehyde (MDA) levels in a diabetic rat model. Materials and Methods: The subjects of this study were ۲۵ rats. The samples were divided into ۵ groups (days of confirmed diabetes): group ۱ (control/non-treatment); group ۲ (۳ days); group ۳ (۶ days); group ۴ (۹ days); and group ۵ (۱۲ days). Samples that confirmed diabetes were assessed by DPOAE examination and subjected to MDA-level examination. The data were processed using SPSS and considered significant if p <۰.۰۵. Results: The study showed a decrease in SNR values and an increase in MDA levels for the rats, which was confirmed by diabetes. The most significant result was shown by group ۵, which compared to the other diabetes groups. A post hoc test showed the significant difference SNR value in each group (p<۰.۰۵); except for groups ۱ and ۲, the MDA levels showed significant differences for all groups. The Pearson correlation test showed a negative correlation between SNR values and MDA levels. A significant correlation between SNR values and MDA levels was found in group ۵. Conclusions: The study showed a correlation of SNR values from DPOAE examination to MDA levels in diabetes rats, indicating that there has been tissue damage (cochlea), which is characterized by a decrease in the SNR value.

کلمات کلیدی:

Diabetes Mellitus, Distortion Product Otoacoustic Emissions, Malondialdehyde, Reactive Oxygen Species