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Research Highlight

CONSTANTLY LISTENING TO THE STRAINED INTONATIONS IS HARMFUL FOR AUDITORY SYSTEM

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Classical music opuses consist of a variety of intonations which are employed to explain the musical sentences, styles as well as characters. A musical intonation is formed by utilizing two or three tones. These tones form an interval. There are particular rules to form these intervals that are used in classical music opuses.

Accordingly, the influence of musical intonations on the organism is very significant. Some authorities have reported that complex rhythms balances in high voices (60 dB and more) can lead towards damaging effects on the organism[1,2].

Considering these facts, scientists conducted an experiment in order to study the differences on ultrastructure of the cochleae caused by different classic musical opuses with the different intonations on Guinea pigs[3].

For this purpose, scientists categorized the Guinea pigs into 3 groups, one was the control and the other two were the experimental groups. Accordingly, the control group was not exposed to any music, while the 2nd group was exposed to classic musical opuses with extensive intervals (40 decibel) and third 3rd was exposed to classical music opuses with strained intonations (60 decibel) for 6 hours in a day with 15 minutes intervals for total ten days. Afterwards, scientists took the samples of cochleae tissue samples from the guinea pigs at the end of the 10th day and analyzed them at the electron microscopic level[3].

During this experiment, extensive intonations were found to form the adaptive-compansatris processes (thickening in the hair cell stereocilias and basal membrane, proliferation of the nerves and synapses) and fermentative activity was also amplified in this case.

While on the other hand, strained intonations resulted in adaptive processes as well as acute degenerative processes (disturbance of the hair cells, damage in the order and parallelism of stereocilias and collapsing of the nerves). The crux of matter is constantly listening to the strained intonations lead towards very damaging effect on the auditory system.

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