

Summary of the research project

"Influence of stress on the auditory system".

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Duration 2012-2015

Based on the investigations, the following conclusions emerge:

1. Stress induces changes in the performance of the auditory system in Lewis and Wistar rats, which, however, differ considerably in the two rat strains studied.
2. Stress induces corticosterone release, which differs in the two rat strains studied. Both rat strains showed increased corticosterone secretion 6 h after cessation of simple stress application. However, Wistar rats had lower corticosterone concentrations immediately after single stress application and at 1 week compared with unstimulated control animals, as well as 6 h and 2 weeks after repeated stress application.
3. Stress induces changes at the protein level responsible for neuroplasticity and regulation of apoptosis. These stress-induced changes were evident in the auditory system as well as in emotion processing and differed between the two strains of rats.
4. The differences in gene and protein regulation between Wistar and Lewis rats likely reflect differences in corticosterone release.

The results of these experiments will allow us to use the findings to develop new therapeutic approaches.