Genetics of Tinnitus

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It is well known that tinnitus is associated with altered neuronal activity in both, auditory and non-auditory brain structures. Neuronal processing within and between these structures depends on neurotransmitter systems but also on neuronal growth factors, which modulate neuroplastic changes. For several neurotransmitter systems (e.g. the serotonergic system) and neuronal growth factors (e.g. BDNF) it is known that their activity depends on gene variants. Individuals with a certain genetic setup could be prone to developing distressing tinnitus.

Identification of candidate genes may contribute to better understand the pathophysiology of tinnitus, but also to identify possible new targets for pharmaceutical treatment.

Our increasing database of tinnitus patients allows us to investigate the impact of genetic factors on clinical characteristics of tinnitus as well as on neuronal activity patterns as detected by functional imaging.

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