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GENETICS IN ANXIETY DISORDERS - AN UPDATE

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Twin studies propose a strong genetic contribution to the pathogenesis of anxiety disorders with a heritability of about 50%. The dissection of the complex-genetic underpinnings of anxiety disorders requires a multi-level approach using molecular genetic, imaging genetic, (cognitive)-behavioral genetic and pharmacogenetic techniques linking basic and clinical research.

The present talk will first give an overview of results from linkage and association studies yielding support for several candidate genes contributing to the genetic risk for anxiety and panic disorder in particular such as the adenosine 2A receptor, the catechol-O-methyltransferase, the neuropeptide S receptor and the serotonin receptor 1A genes. Results from the first genome-wide association studies in the field of anxiety disorders will be discussed. Additionally, studies on gene-environment interactions between anxiety disorder risk variants and environmental factors will be presented. Imaging genetics approaches have yielded evidence for several risk genes to crucially impact activation in brain regions critical for emotional processing. Gene variation has furthermore been found to potentially confer an increased risk for panic disorder via elevated autonomic arousal and dysfunctional cognitions regarding bodily sensations. Finally, there is first evidence for genetic variants impacting treatment response to antidepressant pharmacotherapy in anxiety disorders.

Thus, converging lines of evidence will be presented for several candidate genes of anxiety to exert an increased disease risk potentially via a distorted cortico-limbic interaction during emotional processing, increased physiological arousal or dysfunctional cognition. Additionally, a possible impact of genetic variants on pharmacoresponse in anxiety disorders and its potential clinical implications will be discussed.

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