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INDIVIDUALISED PHARMACOTHERAPY OF ALCOHOLISM

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Treatment of alcoholism is successful but effect sizes are in the low to moderate range. Heterogeneity of patients entering treatment trials could be one potential explanation. Several attempts have been made to subgroup patient for specific treatment approaches ("matching"). A new approach includes biological data such as pharmacogenetics and neuroimaging for treatment-patient matching.

In the PREDICT study (Mann et al., 2009) 426 alcohol-dependent patients were randomized either to placebo, naltrexone or acamprosate. Design and questionnaires were similar to the US COMBINE Study (Anton et al., 2006). Extending Project MATCH and the COMBINE Study we used biological and psychopathological characteristics of patients in order to test their response to naltrexone or acamprosate. In pharmacogenetics 14 SNPs from an own genome-wide association and follow-up study (Treutlein et al., 2009) were tested for differential treatment outcome. Indeed, one SNP showed a significant gene dose effect under acamprosate. Using neuroimaging we confirmed that an increase in brain activity in the ventral striatum is related to time to relapse. We also found support for our hypothesis concerning the rewarding characteristics of alcohol in a certain subgroup of patients. Here f-MRI BOLD response in the ventral striatum predicted a positive naltrexone response. Furthermore, new opioid receptors in alcoholics and normal controls were assessed using carfentanil PET. Analyses are still underway.

In conclusion the treatment of alcoholism is moving towards a personalised approach. This holds the potential for a significant increase in effect sizes of our treatment trials and thus for better treatment options for our patients.

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