

## **P-80 - TRANSCRANIAL MAGNETIC STIMULATION AS POTENTIAL THERAPEUTIC TOOL ON ALCOHOL DISORDERS: EVIDENCES AND PROPOSALS**

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Transcranial magnetic stimulation (TMS) is a non invasive technique of brain stimulation which could be an interesting therapeutic tool in addictive disorders, being offline repetitive TMS (rTMS) the main strategy used due to it allows to disrupt underlying brain areas and examine behavioral consequences, (Knoch et al., 2006).

There are some evidences that rTMS over the dorso-lateral prefrontal (DLPF) cortex is effective reducing craving in several drugs, such as cocaine, tobacco and alcohol (Camprodon et al., 2007; Amiaz et al., 2009; Mishra et al. 2010). In fact, a decrease on cocaine craving could be observed with a single session of rTMS. Complementary, the application of single and paired-pulse TMS in controlled paradigms is a novel and promising strategy in this area: recent results showed that reward modulated TMS-induced motor-evoked potentials, showing greater cortical inhibition during reward expectation (Gupta and Aron, 2010).

Regarding alcohol abuse, there is a narrow relation between alcohol consumption and impulsiveness. On one hand, alcohol consumption produces impulsive behavior and disinhibition (Marinkovic et al. 2011); and on the other hand, impulsiveness personality trait predisposes to abusive alcohol consumption (Magid et al. 2007).

Considering these evidences and the effectiveness of rTMS as therapeutic tool, use rTMS to reduce impulsivity could be a new approach to alcohol disorders treatment. Prefrontal cortex is a good candidate for this purpose since its pivotal role in impulsiveness behavior (Crews and Boettinger, 2009). Thus, we suggest that high frequency rTMS stimulation could improve the ability of alcohol abusers for control their drinking impulse.