

## **P-1378 - BRAIN STIMULATION TECHNIQUES: NON-INVASIVE TREATMENTS FOR DEPRESSION**

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Nowadays there is an increasing interest on brain stimulation techniques as therapeutic tools in psychiatric disorders. One of the most promising results has been obtained in depression treatment. In fact, some countries have approved the use of transcranial magnetic stimulation (TMS) and transcranial direct current stimulation (tDCS) as treatments for depression (European Union, Canada, Australia, New Zealand, Unites States and Israel).

It is well known that both high frequency repetitive TMS (rTMS) and anodal tDCS over the left dorsolateral pre-frontal cortex (DLPF), are effective in decreasing depressive symptoms and they have lasting beneficial effects. First evidence of benefits of rTMS on depression was published by Pascual-Leone and co-workers in 1996 (Pascual-Leone *et al.*, 1996). These results have been supported by others, both using rTMS (e.g. Anderson *et al.*, 2009; George *et al.*, 2010) and tDCS (e.g. Boggio *et al.*, 2008; Rigonatti *et al.*, 2008). On the other hand, later studies showed that low frequency rTMS over right PFDL cortex is also effective in depression improvement (Kauffmann, Cheema y Miller, 2004).

In addition, both techniques have reported good results as treatment of secondary depression associated with Parkinson, epilepsy and brain damage (Fregni *et al.*, 2004; Fregni *et al.*, 2005; Jorge *et al.*, 2004).

Recent revisions and meta-analysis corroborates TMS and tDCS efficacy (e.g.: Slotema *et al.*, 2010), always considering that their efficacy depends on several factors, such as the length of the current depression episode, age of patient, length of the treatment, stimulation intensity or number of pulses per session.