Antidepressants for post-traumatic brain injury depression: a meta-analysis of randomized controlled trials

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Introduction: Patients with traumatic brain injuries (TBIs) suffer from depression at a frequency varying between 16-60%. Considering that brain injuries afflict mainly young individuals, the need for effective treatment is imperative. Methods: We performed a systematic review and meta-analysis of randomized controlled trials (RCTs) from January 1990 until November 2016 comparing the efficacy of antidepressants with placebo in the treatment of post-TBI depression. We searched MEDLINE, SCOPUS and the CENTRAL Register of Controlled Trials. Results: Four placebo-controlled RCTs investigating the Selective Serotonin Reuptake Inhibitors (SSRIs) citalopram and sertraline complied with the eligibility criteria of our search. Even though at the end of the follow-up period the rate of non-responders was found to be lower in the treatment groups compared to placebo (OR=0.42, 95%CI=0.15-1.17), this difference was not statistically significant (p=0.10). In the subgroup analysis of the studies that reported mean Hamilton Depression Scale for Depression between treatment and control patients on both the baseline and endpoint evaluations, the pooled mean difference was reduced from 2.11 (95%CI=-1.25-5.46) to -2.36 (95%CI=-5.59-0.87) in favor of the treatment group. Despite this reduction, statistical significance was marginally unattainable (p=0.06). No evidence of heterogeneity or publication bias were observed among the included studies. Conclusion: Citalopram and sertraline seem to be effective in treating patients with post-TBI depression. Due to the lack of high quality data on this devastating problem of public health, there is an urge for appropriately designed and adequately powered RCTs extending to other newer antidepressants.