

Article: 0342

Topic: EPO04 - e-Poster Oral 04: Prevention of Mental Disorders, Psychoneuroimmunology, Psychopathology, Psychopharmacology and Pharmacoeconomics, Psychosurgery and Stimulation Methods (ECT, TMS, VNS, DBS) and Psychotherapy

Effect of Anti-inflammatory Treatment On Depression, Depressive Symptoms and Side Effects: a Systematic Review and Meta-analysis of Randomized Clinical Trials

O. Köhler¹, M. Benros², M. Nordentoft², P. Mors³, J. Krogh²

¹Centre for Register-based Research, Centre for Register-based Research, Århus V, Denmark ; ²Mental Health Centre Copenhagen Faculty of health sciences, University of Copenhagen, Bispebjerg, Denmark ;

³Research Department P, Aarhus University Hospital Risskov, Risskov, Denmark

Introduction:

Studies have indicated antidepressant effects of anti-inflammatory treatment; however, results have been conflicting and side effects may contraindicate anti-inflammatory treatment.

Objectives:

To systematically review the antidepressant and possible side effects of anti-inflammatory interventions.

Aims:

To include trials published prior to December, 31st 2013, and evaluate depression scores after treatment and side effects.

Methods:

We identified randomized, placebo-controlled trials assessing efficacy and side effects of pharmacological anti-inflammatory treatment in adults with depressive symptoms including adults fulfilling depression-criteria. We calculated standard mean difference (SMD) and Odds ratios (OR).

Results:

10 publications covering 14 trials (n=6,262) were included: 10 on non-steroidal anti-inflammatory drugs (NSAIDs) (n=4,258) and four on cytokine-inhibitors (n=2,004). Anti-inflammatory treatment reduced depression (SMD=-0.54; 95%-CI:-1.08 to -0.01; I²=68%) and depressive symptoms (SMD=-0.27; 95%-CI:-0.53 to -0.01; I²=93%). Sub-analyses particularly emphasized antidepressant properties for the selective cyclooxygenase-2 inhibitor celecoxib in general (SMD=-0.29; 95%-CI: -0.49 to -0.08; I²=73%), on remission (OR=7.89; 95%-CI: 2.94 to 21.17; I²=0%) and response (OR=6.59; 95%-CI: 2.24 to 19.42; I²=0%). Among 6 studies (n=2,523), we found no evidence of an increased number of gastrointestinal or cardiovascular events after 6 weeks nor infections after 12 weeks of anti-inflammatory treatment. All trials were associated with high risk of bias.

Conclusions:

Anti-inflammatory treatment, in particular celecoxib, decreased depressive symptoms without increased risks of side effects. However, a high risk of bias and high heterogeneity made the mean estimate uncertain. This study supports a proof-of-concept concerning use of anti-inflammatory treatment in depression. Identification of subgroups that could benefit hereof might be warranted.