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THE THERAPEUTIC POTENTIAL OF NON STEROIDAL ANTI-INFLAMMATORY DRUGS IN THE TREATMENT OF DEPRESSION AND SCHIZOPHRENIA

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COX-2 inhibition seems to balance the type-1/type-2 immune response, possibly via inhibition of prostaglandin E2. COX-2 inhibition reduces proinflammatory cytokines. COX-2 inhibition has an impact to the glutamatergic neurotransmission and influences the tryptophan/kynurenine metabolism: all three components seem to be involved in the pathophysiology of psychiatric disorders, particularly in schizophrenia and major depression.
Due to the increase of proinflammatory cytokines and PGE2 in depressed patients, antiinflammatory treatment would be expected to show antidepressant effects. An antidepressant effect of rofecoxib was found in patients with osteoarthritis. An own randomized double blind pilot add-on study using the selective COX-2 inhibitor celecoxib in MD showed a significant therapeutic effect of the COX-2 inhibitor on depressive symptoms. Although those preliminary data have to be interpreted cautiously, those results are encouraging for further studies dealing with the inflammatory hypothesis of depression.
Secondly, we and other research-groups performed several studies of COX-2 inhibitors in schizophrenia. In a prospective, randomized, double-blind study with the COX-2 inhibitor celecoxib in acute exacerbation of schizophrenia, a therapeutic effect of celecoxib was observed. The finding of a clinical advantage of COX-2 inhibition could not be replicated in a second study. Further analysis of the data revealed that the efficacy of therapy with a COX-2 inhibitor seems most pronounced in the first years of the schizophrenic disease process.
It has to be considered, however, that therapy with COX-2 inhibitors is currently under discussion - as therapy with other non-steroidal antiphlogistics - due to cardiovascular side-effects.

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