

Ibuprofen, aspirin, other anti-inflammatory drugs reduce effectiveness of SSRI antidepressants

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Scientists at the Fisher Center for Alzheimer's Disease Research at The Rockefeller University, led by Paul Greengard, Ph.D., and Jennifer Warner-Schmidt, Ph.D., have shown that anti-inflammatory drugs, which include ibuprofen, aspirin and naproxen, reduce the effectiveness of the most widely used class of antidepressant medications, the selective serotonin reuptake inhibitors, or SSRIs, taken for depression and obsessive-compulsive disorder and anxiety disorders.

This surprising discovery, published online this week in the [Proceedings of the National Academy of Sciences](#), may explain why so many depressed patients taking SSRIs do not respond to antidepressant treatment and suggests that this lack of effectiveness may be preventable. The study may be especially significant in the case of Alzheimer's disease. Such patients commonly suffer from depression and unless this can be treated successfully, the course of the illness is likely to be more severe. Depression in the elderly is also a risk factor for developing Alzheimer's Disease and researchers have suggested that treating depression in the elderly might reduce the risk of developing the disease.

In the recent study, investigators treated mice with [antidepressants](#) in the presence or absence of [anti-inflammatory drugs](#). They then examined how the mice behaved in tasks that are sensitive to antidepressant treatment. The behavioral responses to antidepressants were inhibited by

anti-inflammatory/analgesic treatments. They then confirmed these effects in a human population. Depressed individuals who reported anti-inflammatory drug use were much less likely to have their symptoms relieved by an antidepressant than depressed patients who reported no anti-inflammatory drug use. The effect was rather dramatic since, in the absence of any anti-inflammatory or analgesic use, 54 percent of patients responded to the antidepressant, whereas success rates dropped to approximately 40 percent for those who reported using anti-inflammatory agents.

"The mechanism underlying these effects is not yet clear. Nevertheless, our results may have profound implications for patients, given the very high treatment resistance rates for depressed individuals taking SSRIs," notes Dr. Warner-Schmidt.

Dr. Greengard adds, "Many elderly individuals suffering from depression also have arthritic or related diseases and as a consequence are taking both antidepressant and anti-inflammatory medications. Our results suggest that physicians should carefully balance the advantages and disadvantages of continuing anti-inflammatory therapy in patients being treated with [antidepressant medications](#)."

Provided by Rockefeller University

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