Brain Scan Shows Change In Placebo -Treated Patients

Depressed patients who respond to treatment with an inactive placebo show changes in brain function that are different from those seen in patients who respond to antidepressant treatment, a new study shows. The finding may be useful in predicting who will respond to antidepressant medications, according to researchers.

``No one has looked at brain function in patients taking placebo, because it is thought to be 'no treatment,'" study leader Dr. Andrew F. Leuchter of the University of California, Los Angeles, told Reuters Health. ``Our hypothesis was that placebo would have no effect on brain activity, whether or not the patients improved."

But Leuchter and colleagues found that patients who responded to placebo showed a significant increase in a measure of brain activity called prefrontal cordance, which began early in ``treatment." Their findings are published in the January issue of the American Journal of Psychiatry.

In contrast, patients who responded to two different types of antidepressant--Prozac (fluoxetine) or Effexor (venlafaxine)--showed a decrease in prefrontal cordance. Patients who did not respond to either antidepressant or placebo showed no change in the measure.

Researchers evaluated 51 depressed patients in two separate 9-week trials of either Prozac or Effexor. A total of 25 patients received antidepressants and 26 received placebo.

Overall, 52% of patients receiving antidepressants and 38% of those receiving placebo responded to treatment.

The investigators evaluated brain response using two methods: a traditional electroencephalogram (EEG) that measures the brain's electrical activity; and cordance, which is similar to an EEG but measures the amount of blood flow (perfusion) in the brain more accurately. Cordance is also known to be sensitive to the effects of antidepressant medications.

Although responders to both antidepressants and placebo showed changes in cordance, none showed changes in their EEG reading.

``What is most surprising about our results is that the changes in brain function seen during medication-related improvement were the opposite of the changes seen during placebo-related improvement," Leuchter said.

``To our knowledge, this is the first time that treatments that appear to yield the same clinical result are associated with distinct changes in brain function," he added.

According to Leuchter, he and his colleagues will next examine what aspects of treatment are important in causing a response to placebo.

``These patients got better not just because of a pill, but because they were participating in a study that offered them human contact and hope--among other things," Leuchter said. "Exactly what factors are critical must be determined."

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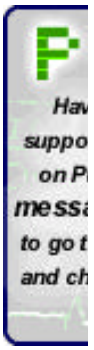
He also told Reuters Health that he and his colleagues want to determine how long the placebo response lasts and if this response could be extended. ``Many of these patients who 'responded' to placebo did not remain well, but quickly relapsed,'' Leuchter noted.

``The most important point is that patients with depression must not give up hope,'' he added. ``Studies such as this one are identifying new ways to help patients get better.''

SOURCE: American Journal of Psychiatry 2002;159:122-129.



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