Varenicline, Antidepressants Help Smokers Quit

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Varenicline triples the likelihood that a smoker will quit, compared with placebo, and bupropion and nortriptyline double the odds, according to a pair of evidence reviews published Jan. 24.

The Cochrane Collaboration review of varenicline, a nicotine receptor agonist, based its findings on five randomized controlled trials that included more than 4,900 people, more than 2,400 of whom took varenicline (Cochrane Database Syst. Rev. 2007 Jan. 24 [Epub doi: 10.1002/14651858.CD006103.pub2]).

Findings were validated in all of the studies included in the meta-analysis by measuring exhaled carbon monoxide levels.

At 12 months, the pooled odds of the smokers taking varenicline were 3.22 times as great as those taking placebo to have continuously abstained from smoking, according to the reviewers, led by Kate Cahill, of the primary health care department at Oxford University (England). At 12 weeks, patients taking varenicline were 4.07 times as likely as those taking a placebo to have continuously abstained from smoking, and at 24 weeks, 3.53 times as likely, according to the reviewers. However, the reviewers said more comparisons with other smoking-cessation strategies are needed.

Three of the studies did compare varenicline with bupropion, an antidepressant. At 12 months, the smokers taking varenicline were 66% more likely to have abstained from smoking.

The number of smokers needed to treat with varenicline to achieve one more successful quitter is eight, compared with placebo, the reviewers write. By comparison, nicotine replacement therapy requires 20 and bupropion 15.

The reviewers found only one trial of another nicotine agonist, cytisine, that met the reviews' inclusion criteria. That trial increased by 77% the chances that a smoker will abstain from smoking 2 years after treatment.

For varenicline, a derivative of cytisine, the most serious adverse effects were nausea, at rates topping 50%, with discontinuation rates as high as 9.5%. Two of the trials found an increased nausea rate with higher doses, with 17.5% of those taking a 0.3-mg dose daily reporting nausea to 52% of those taking a 1-mg dose twice a day.

When used as a sole medication, bupropion increased by 94% the chances that a smoker will quit.

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No treatment-related deaths were reported for any patients taking varenicline, although nonfatal serious adverse events occurred in all of them. However, all of the studies judged varenicline to be safe and well-tolerated at all dosages and time periods.

All of the varenicline studies meeting the reviewers' inclusion criteria were funded by Pfizer Inc., which manufactures the medication under the brand name Chantix.

The separate review of antidepressants, an update to an earlier report, identifies 17 new randomized controlled trials since 2004 using the medications for smoking cessation (Cochrane Database Syst. Rev. 2007 Jan. 24 [Epub doi 10.1002/14651858.CD000031.pub3]), bringing the total number of trials to 53.

In 31 trials testing bupropion as a sole medication, testing a total of 10,000 patients, the drug increased by 94% the chances that a smoker will quit, compared with a placebo, according to the reviewers, led by Dr. John R. Hughes, a professor in the department of psychiatry at the University of Vermont, Burlington.

In 17 trials with a 12-month follow-up period, smokers who take bupropion were 83% more likely than those on placebo to have abstained from smoking. The reviewers said evidence is insufficient to favor bupropion over nicotine replacement therapy or to add bupropion to nicotine replacement therapy.

Nortriptyline also doubles odds of success. Six trials with 975 patients show those taking nortriptyline are 2.34 times more likely to quit, compared with placebo. Other antidepressants did not demonstrate a long-term effect, the reviewers said.

The most serious side effect of the use of the antidepressants for smoking cessation was a 1 in 1,000 risk of seizures. ■