Beta-Blockers May Boost COPD Survival Rates

BY MARY ANN MOON

FROM THE ARCHIVES OF INTERNAL MEDICINE

Beta-blockers appeared to improve survival in chronic obstructive pulmonary disease and decreased the risk of exacerbations by nearly 30%, according to a recent report.

Beta-blockers are known to improve survival in patients with a wide spectrum of cardiovascular diseases. But the benefits shown in an observational cohort study were surprising, the study investigators noted, because the drugs often are withheld in COPD patients because of fear they will promote bronchospasm and induce respiratory failure.

Even more surprising was the finding that beta-blockers benefited COPD patients who had no known cardiovascular disease, said Dr. Frans H. Rutten of the University Medical Center Utrecht, the Netherlands, and his associates.

"Traditional dogma … states that beta-blockers are contraindicated in COPD because of their presumed bronchoconstrictive properties and 'competition' with beta-2 agonists," the researchers said. In theory, however, those drugs could benefit COPD patients "by tempering the sympathetic nervous system or by reducing the ischemic burden," they added (Arch. Intern. Med. 2010;170:880-7).

The researchers assessed 2,230 patients aged 45 years and older (mean age 65 years) who attended 23 general practices in the vicinity of Utrecht from 1995 through 2005. Those patients either had COPD at the start of the study period (560 patients) or developed the disorder during the study (1,670 patients).

A total of 665 patients used beta-blockers, while 1,565 did not.

Overall, 686 patients in the study died. All-cause mortality was 27% among those who used beta-blockers, a significantly smaller proportion than the 32% among subjects who did not use the drugs.

Similarly, 1,055 of the study's patients had at least one COPD exacerbation during follow-up. That included 43% of those who used beta-blockers, a significantly smaller proportion than the 49% rate in patients who did not use the drugs.

"To our knowledge, this is the first observational study that shows that long-term treatment with beta-blockers may improve survival and reduce the risk of an exacerbation of COPD in the broad spectrum of patients" with COPD, Dr. Rutten and his colleagues said.

"Cardioselective beta-blockers had larger beneficial effects on mortality than nonselective ones, but similar effects on risk of exacerbation of COPD," they said.

"Interestingly, the association of beta-blocker use with all-cause mortality and risk of exacerbation of COPD also remained in patients who were taking two or more pulmonary drugs or who were using inhaled beta-2 sympathicomimetics or anticholinergic agents," the investigators noted. "Therefore, inhaled pulmonary medication seems not to interfere with the results of beta-blocker use."

A recent meta-analysis of randomized trials has already shown that beta-blockers are well tolerated by COPD patients. With the results of the observational study added to those findings, it seems clear that "the time has come to confirm these results in a randomized controlled trial," Dr. Rutten and his associates said.

The study findings "provide a rationale for the practicing clinicians to use beta-blockers (even noncardioselective ones such as carvedilol) cautiously in their patients with COPD who also have a coexisting cardiovascular condition for which a beta-blocker is required, noted Dr. Don D. Sin and Dr. S.F. Paul Man, both of the University of British Columbia and Providence Heart and Lung Institute, Vancouver, in an editorial comment accompanying the report (Arch. Intern. Med. 2010;170:849-50).

"These data may be of great clinical relevance in COPD because cardiovascular diseases (and not respiratory failure) are the leading causes of hospitalization," Dr. Sin and Dr. Man noted, "accounting for nearly 50% of all hospital admissions, as well as being the second-leading cause of mortality, responsible for 25% of all deaths, in patients with mild to moderate COPD. ■

Disclosures: *No financial conflicts of interest were reported.*