

Circadian BP Patterns May Predict Vascular Events

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CHICAGO — Treated hypertensive patients who have either extreme or very slight dips in nighttime blood pressure are at greater cardiovascular risk than are those with moderate dips, according to a study in 1,472 patients.

Prior research has shown that people whose blood pressure fails to dip at night ("nondippers") are at much higher risk for cardiovascular events than are patients whose BP follows the normal diurnal pattern and falls by 10%-20% during sleep.

The new data extend these findings to include "extreme dippers," or those whose nighttime systolic and/or diastolic blood pressure dips by at least 20%.

"Circadian blood pressure pattern influences cardiovascular outcome in treated hypertension and its evaluation allows

Cardiovascular risk was significantly higher in the nondipper patient group (RR 1.7) and the extreme dippers (RR 2.2) compared with dippers.

a better prognostic stratification and may suggest a more appropriate pharmacological management," lead investigator Dr. Sante D. Pierdomenico and associates reported in a poster at the annual meeting of the American

Society of Hypertension.

The investigators studied 388 patients who had a dipper blood pressure pattern (systolic and diastolic nighttime BP reduction of at least 10% and less than 20%), 745 with a nondipper BP pattern (systolic and/or diastolic reduction of less than 10%), and 339 with an extreme-dipper BP pattern.

Blood pressure measurements were taken with a 24-hour ambulatory blood pressure monitoring system.

Nondippers (mean age 61 years) were significantly older than dippers (58 years) or extreme dippers (55 years), and were more likely to have diabetes (8%) than dippers (4.4%) or extreme dippers (4%).

However, the nondippers were significantly less likely to be smokers (17%) than were the dippers (25%) or the extreme dippers (22%).


During an average of 5 years of follow-up, there were 116 cardiovascular events. The event rate per 100 patient-years was 0.91, 1.93, and 1.73 in the dipper, the nondipper, and the extreme-dipper patients, respectively.

Event-free survival was significantly different among the groups, reported Dr.

Pierdomenico, professor of medicine and aging science at G. d'Annunzio University in Chieti, Italy.

A Cox regression analysis that was adjusted for various covariates, including 24-hour blood pressure and drug therapy, showed that the cardiovascular risk was significantly higher in the nondipper patient group (relative risk 1.7) and also in the extreme-dipper patient group (RR 2.2), compared with the dipper group of patients.

"This and many other studies would argue for 24-hour blood pressure monitoring at least in the subgroup of people at very high risk of being nondippers," said Dr. George Bakris, director of the hypertension center at the University of Chicago, "for example, those with kidney disease [glomerular filtration rate less than 60 mL/min per 1.73 m²]; those who are obese, with or without sleep apnea; blacks with hypertension; and those with insulin resistance." ■



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5. Some studies with omega-3-acids demonstrated prolongation of bleeding time, which did not exceed normal limits and did not produce clinically significant bleeding episodes. Patients receiving treatment with both LOVAZA and anticoagulants should be monitored periodically.
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7. LOVAZA was well-tolerated in controlled studies. The most common adverse events reported were: eructation, infection, flu syndrome, dyspepsia, rash, taste perversion, and back pain.
8. Please see full prescribing information.

References: 1. Lovaza Prescribing Information. Liberty Corner, NJ: Reliant Pharmaceuticals, Inc; 2007. 2. Data on file, Reliant Pharmaceuticals, Inc. 3. Ginsberg HN. Insulin resistance and cardiovascular disease. *J Clin Invest*. 2000;106:453-458. 4. Stalenhoef AFH, de Graaf JD, Wittekoek ME, Bredie SJH, Demacker PNM, Kastelein JJP. The effect of concentrated n-3 fatty acids versus gemfibrozil on plasma lipoproteins, low density lipoprotein heterogeneity and oxidizability in patients with hypertriglyceridemia. *Atherosclerosis*. 2000;153:129-138. 5. Garg R, Vasamreddy CR, Blumenthal RS. Non-high-density lipoprotein cholesterol: why lower is better. *Prev Cardiol*. 2005;8:173-177.

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