

'J Curve' Persists Despite Intensive Lipid Control

BY SHERRY BOSCHERT

SAN FRANCISCO — Bringing blood pressure levels too far down increased the risk for cardiovascular events in a post hoc analysis of data on 10,001 patients with coronary artery disease in a trial of aggressive lipid-lowering therapy.

There has been some controversy around the idea of a "J curve" relationship between blood pressure and the risk for cardiovascular events, in which a higher rate of events is seen with very low and very high blood pressure levels. Every previous study except one that looked for this phenomenon found evidence of a J

equally predicted the risk for stroke.

Lower systolic pressures were better tolerated by patients aged 65 years or younger, those who had undergone revascularization procedures, and patient with no prior coronary artery bypass graft.

Hypertensive specialists consider very low blood pressures a "relatively minor" concern, Dr. Messerli said, because most patients fail to reach blood pressure targets. However, "most of us would agree

that at least with coronary artery disease and diastolic blood pressure, you have to be a bit careful" in how low to go.

Dr. Messerli offered three possible explanations for the J curve. When blood pressure is too low, the coronaries are underperfused, increasing the risk of an MI. Secondly, a lower diastolic blood pressure means that pulse pressure is high, which indicates endothelial dysfunction and stiff arteries, which can lead to morbid-

ity and mortality. Third, patients with low blood pressure may have concomitant pathology that produces higher mortality.

The study was funded by Pfizer Inc., which markets atorvastatin. Dr. Messerli has been a consultant, adviser, or speaker for other companies that make anti-hypertensives, lipid-lowering drugs, or other medications, but has no relationship with Pfizer. ■



'The good news is that it is a relatively shallow curve.'

DR. MESSERLI

curve, but it's been unclear whether the J curve exists when other cardiovascular risk factors such as LDL cholesterol levels are managed aggressively, Dr. Franz H. Messerli said at a press briefing during the annual meeting of the American Society of Hypertension.

Data for the current analysis came from the double-blind Treating to New Targets trial that randomized patients aged 35-75 years with LDL cholesterol levels below 130 mg/dL to daily cholesterol-lowering therapy with 10 or 80 mg of atorvastatin. That study found significantly reduced cardiovascular risk when LDL levels were reduced to 100 mg/dL.


The post hoc analysis revealed a J curve for blood pressure. Patients who had blood pressures below or above 130-140 mm Hg systolic or 70-80 mm Hg diastolic were at higher risk for the primary end point, a composite of death from coronary disease, nonfatal MI, resuscitation after cardiac arrest, or fatal or nonfatal stroke.

The nadirs for safe low blood pressures were 141 mm Hg systolic and 80 mm Hg diastolic, said Dr. Messerli, director of the hypertension program at St. Luke's Roosevelt Hospital, New York, who reported the findings in a poster presentation.


"The good news is that it is a relatively shallow curve," with mild increases in risk just below those blood pressure nadirs, Dr. Messerli said. Once blood pressure drops to 110 mm Hg systolic or 60 mm Hg diastolic or lower, however, risk for the primary cardiovascular end point tripled.

Similar J-curve relationships were found for secondary end points analyzed individually—all-cause mortality, cardiovascular mortality, nonfatal MI, or stroke.

Systolic blood pressure was a stronger predictor of all-cause mortality or cardiovascular mortality. Diastolic blood pressure was a stronger predictor of nonfatal MI. Systolic and diastolic pressures

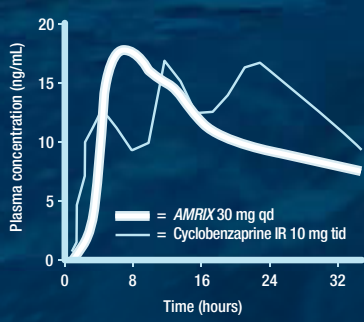


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Reference: 1. Data on file. Study 1107. Cephalon, Inc.; 2004.

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