

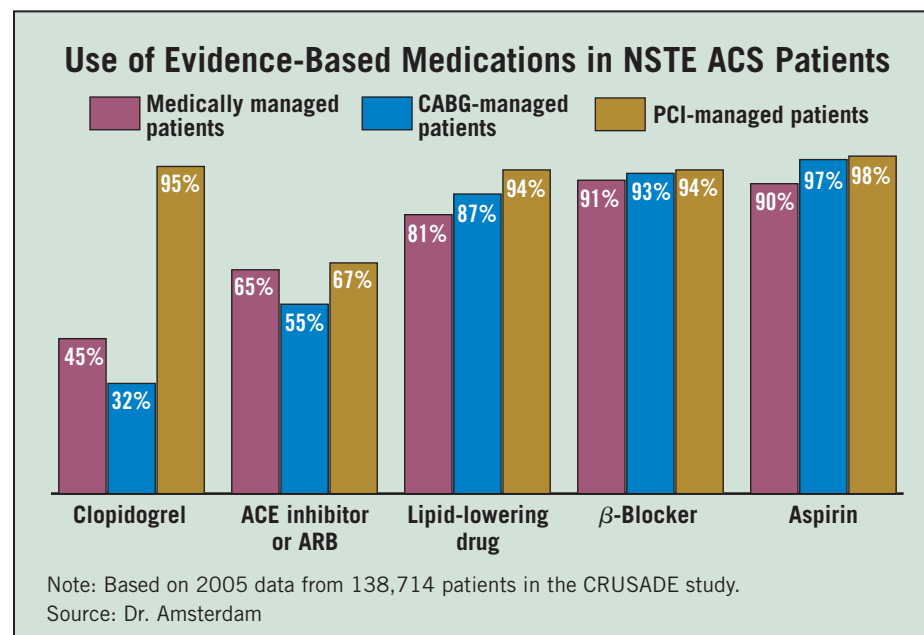
Acute Coronary Treatment Veers Off Guidelines

BY BRUCE JANCIN
Denver Bureau

NEW ORLEANS — A large proportion of patients with non-ST-elevation acute coronary syndrome get medical management without coronary angiography despite contemporary guidelines emphasizing an invasive strategy—yet this highest-mortality group of patients is least likely to receive evidence-based pharmacotherapy, Dr. Ezra A. Amsterdam reported at the annual scientific session of the American College of Cardiology.

He presented an analysis of CRUSADE quality improvement registry data involving 138,714 patients with non-ST-elevation acute coronary syndrome (NSTE ACS) treated at 547 U.S. hospitals during 2002-2005. Of those patients, 21% underwent cardiac catheterization without revascularization, 39.5% received percutaneous coronary revascularization, 10.9% had bypass surgery, and 28.6% received medical management only. During the study period, the use of solely medical management declined from 30.6% of all patients in 2002 to 25.6% in 2005, whereas percutaneous coronary intervention (PCI) rose from 36.2% to 42.1% in accord with current guideline recommendations.

The guidelines also call for routine use of certain evidence-based drugs in NSTE ACS patients regardless of whether they



are managed invasively or noninvasively. But although there was an encouraging trend for greater use of these evidence-based medications over the years in medically managed patients, their usage remained significantly less than in patients who received PCI or bypass surgery (see chart), noted Dr. Amsterdam, professor of medicine and director of the cardiac care unit at the University of California, Davis.

In tandem with the more intensive use of evidence-based medications during the

study period, unadjusted in-hospital mortality in patients managed solely medically declined from 8.0% to 6.6%, he added.

Discussant Dr. Robert A. Harrington described patients with NSTE ACS who are managed solely medically as “almost a forgotten population.”

“There’s been so much emphasis placed on the role of the invasive management strategy and coronary revascularization that we often forget that upwards of one-third of patients presenting with an ACS

will ultimately be treated medically,” said Dr. Harrington, director of cardiovascular clinical trials at the Duke Clinical Research Institute, Durham, N.C. With NSTE ACS patients accounting for more than 1 million hospital admissions a year in the United States, the CRUSADE evidence for often-suboptimal management of the large portion managed solely medically is an “incredibly important” concern, he added.

The key question raised by the CRUSADE findings is why these medically managed patients, who are at such high risk, are being treated less aggressively than those undergoing revascularization. Part of the answer may lie in the fact that they tend to be older and have more comorbid conditions, Dr. Harrington observed. “[CRUSADE results should] change practice today ... because what they’re telling us is we need to have an ongoing continuing emphasis on understanding evidence-based prescribing.”

CRUSADE (Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes with Early Implementation of the ACC/AHA Guidelines) was sponsored by Schering Plough Corp., Millenium Pharmaceuticals, Bristol-Myers Squibb, and Sanofi. As of January, it merged with the Genentech-sponsored National Registry for Myocardial Infarction to form the Acute Coronary Treatment and Intervention Outcomes Network registry. ■

Target Resistance Training to Select Groups, AHA Advises

BY JOHN R. BELL
Associate Editor

Elderly men and women in nursing homes can benefit from resistance training, as can patients with heart failure, according to an update on resistance exercise issued by the American Heart Association.

The update follows up AHA’s first scientific advisory on the topic published in 2000 (*Circulation* 2000;101:828-33). The new advisory updates the information, discusses the benefits of resistance training in targeted populations, describes how to evaluate patients for participation in the training, and offers specific training methods.

For example, resistance training (RT) generally has been shown to have at least some benefit in patients with diabetes, hypertension, obesity, and dyslipidemia, although for some conditions, the benefit is dependent on patient age and/or the duration of the training.

The AHA’s initial advisory reviewed the evidence showing a benefit for RT on various measures of cardiovascular health in the general population. The advisory discusses evidence that RT can be beneficial even in nursing home populations, as long as adjustments are made for “certain individuals and health limitations.” RT increases muscle mass across all age groups, though less so for women than for men. Findings regarding the effect of weight training on bone have been mixed, showing either no change or an increase in bone mineral density, the authors reported (*Circulation* 2007; epub ahead of print; DOI 10.1161/circulationaha.107.185214).

The new version “provides a much broader approach to the topic than the report from 7 years ago, when fewer data were available,” Mark Williams, Ph.D., director of cardiovascular disease prevention and rehabilitation at Creighton University, Omaha, Neb., and a cochair of the writing committee, said in an interview. He emphasized that, “while RT is a valuable modality for any number of reasons, it is to be used as a complement to, rather than re-

placement for, aerobic exercise such as walking, cycling, and swimming.”

Likewise, RT has been associated with improvements in nearly all of the conditions mentioned in the statement. In patients with diabetes, RT has been associated with increased glucose uptake and insulin sensitivity, the authors wrote, although it has not been shown to prevent type 2 diabetes or to affect glucose tolerance or glycemic control in normal individuals. RT also has been shown to achieve modest but clinically significant decreases in blood pressure, according to two meta-analyses; the effect was smaller (yet still significant) for older persons than for middle-age persons. Moreover, elderly women (as well as men) have been shown to achieve higher daily energy expenditure with RT. Resistance training also can prevent or reverse age-associated fat increases. Current findings on the effect of RT on cardiovascular disease remain equivocal; in one study of 8,499 men, only those who engaged in RT for at least 4 hr/wk showed a reduced risk for hypercholesterolemia. However, RT combined with aerobic exercise has shown clear benefit, particularly in older people, the statement said.

For women specifically, RT has been associated with improvements in daily activities, strength, balance and coordination, and walking, according to the statement. Findings also have shown that RT increases resting energy expenditure and metabolic rate in older women.

A notable conclusion of the new statement is its discussion of RT for persons with heart failure. Despite concerns that RT in such persons may exacerbate their condition because of potential adverse left ventricular



Resistance training can be incorporated into heart failure rehab programs.

modeling in the lifting phase, the new statement concludes that “at the intensity of RT performed by patients with [heart failure], the hemodynamic responses do not exceed levels attained during standard exercise testing. ... Thus, it appears that RT can be incorporated safely into rehabilitation programs for patients with HF, although further study of this important area is needed.”

Resistance training generally is safe, the statement’s authors concluded, and has not been linked to increases in anginal symptoms, ST-segment depression, or complex ventricular arrhythmias. This suggests that RT is “safe in clinically stable men with [coronary heart dis-

ease] who are actively participating in a supervised rehabilitation program.” Screening patients for RT helps identify those patients with contraindications and further identify whether the contraindications are absolute—such as unstable coronary heart disease, uncontrolled arrhythmias, and severe or symptomatic aortic stenosis—or relative—such as diabetes, uncontrolled hypertension, or having an implanted pacemaker or defibrillator—and tailor the RT regimen to an individual patient’s ability and tolerance.

The initial RT prescription should be limited to a single set performed 2 days/week limited to no more than 8-12 repetitions for healthy sedentary adults or 10-15 repetitions at a lower level of resistance for cardiac or more frail patients. After the initial training period, patients can gradually increase the weight load and perform RT 3 days/week. RT should involve the major muscle groups of the upper and lower extremities and include exercises such as the shoulder press, leg press, and calf raise. ■