

Acute Severe Hypertension Tx, Outcomes Vary

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Contributing Writer

WASHINGTON — Preliminary analyses of a national registry of patients with the “understudied” condition of acute severe hypertension paint a picture of surprisingly high morbidity and mortality, and striking differences in physician management practices.

The STAT (Studying the Treatment of Acute Hypertension) registry, now closed, collected data from more than 1,580 patients in 25 hospitals—up to 120 consecutive patients in each hospital—in an effort to better understand the condition of acute hypertension that is managed in a critical care setting and treated with intravenous antihypertensive drugs, reported Dr. Kurt C. Kleinschmidt at the annual meeting of the Society of Academic Emergency Medicine.

Estimates are that up to 25% of patients in busy urban emergency departments (EDs) suffer from acute hypertension. Other than small retrospective studies, however, there are limited data available to guide physicians in the evaluation and management of these patients, said Dr. Kleinschmidt of the emergency medicine department at the University of Texas Southwestern Medical School, Dallas.

The STAT registry includes nonpregnant patients with at least one blood pressure reading greater than 180 mm Hg systolic and/or greater than 110 mm Hg diastolic, as well as patients with subarachnoid hemorrhage if they had a BP reading greater than 140 mm Hg systolic and/or greater than 90 mm Hg diastolic. All patients had to have been treated with an intravenous agent given as at least two boluses within 24 hours of hospital arrival and/or as a continuous infusion.

Initial analyses of the registry shed light on the patient population, patterns of care, and outcomes.

“It’s a much sicker population than we’d anticipated ... and there is an amazing collection of management strategies,” Dr. Kleinschmidt said.

Patients enrolled in the registry, managed by the Center for Outcomes Research at the University of Massachusetts, Worcester, had a mean age of 58 years. Most had a history of chronic hypertension (89%), and many (25%) were nonadherent to medications (25%). Almost 27% had had a prior admission for acute hypertension. The patients were almost equally men and women; 56% were black.

In nearly 80% of cases, intravenous antihypertensives were started in the ED. Management practices varied substantially with respect to the initial agent selected, the use of subsequent antihypertensives, and the timing of therapy.

Labetalol was the most commonly used first-line intravenous antihypertensive (31.5%), followed by metoprolol (17.4%), nitroglycerin (15.2%), hydralazine (14.8%), other antihypertensives (8.2%), nicardipine (7.6%), and sodium nitroprusside (5.2%). None of these medications was effective alone; all were followed by the addition of at least two other intravenous antihypertensives, “suggesting that none of the ini-

tial IV medications is particularly effective,” Dr. Kleinschmidt said in an interview.

Nicardipine was the least likely to be followed by other agents, he said, while sodium nitroprusside was most frequently followed by other medications. Therapy was initiated within 1 hour after acute severe hypertension was detected in about 47% of cases. In almost 11.5% of the cases, it took more than 6 hours. The median duration of intravenous therapy was 7.7 hours.

For patients without subarachnoid he-

morrhage (1,419 of the more than 1,580 patients), the median time to achieve a systolic BP of less than 160 mm Hg was 4 hours. About 53% of patients had a re-elevation to greater than 180 mm Hg after initial control, and roughly 4% developed hypotension that required intervention.

For those patients who presented with subarachnoid hemorrhage, a systolic BP less than 140 mm Hg was reached in a median of 1.8 hours, and about 4% developed hypotension.

Overall, there was “considerable variability” in BP response over time, based on the initial antihypertensive agent selected, reported Dr. Kleinschmidt, also associate medical director of emergency services at Parkland Memorial Hospital, Dallas.

Nearly 60% of patients had evidence of target-organ injury associated with their hypertensive episodes. In-hospital mortality was almost 7%—a rate that is largely attributed to those patients with intracerebral hemorrhage. ■

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