Heat Stroke Diagnosis Being Missed in Elderly Patients

S. NOWMASS, Colo. — Exertional heat stroke is often the headline grabber at summer festivals, but most heat stroke cases occur in elderly house-bound individuals with underlying chronic disease, Eric Johnson, M.D., said at the annual meeting of the Wilderness Medical Society.

The mortality rate of heat stroke in the elderly is high. The diagnosis is often missed during the critical first hours. That’s because the differential diagnosis in the elderly nonathlete is lengthy, unlike in a young sports participant who collapses during an intensive hot weather workout.

“A lot of the time with geriatric patients we find that doctors immediately order CT scans, ECGs, blood tests, and so forth—and only 2 hours later someone finally takes a rectal temperature and finds out the patient has been 106° F. Then it’s ‘uh oh, this isn’t menigitis, it wasn’t a stroke, they’re not septic, it wasn’t a seizure,’” said Dr. Johnson, an emergency department physician in Boise, Idaho, and president-elect of the society.

“Thus, the need for these differential diagnoses, but the duration and magnitude of hyperthermia is the main determinant of outcome in heat stroke. When we miss it for 2 hours we have a very, very high mortality,” he said. The diagnostic work-up often can be accelerated by speaking with paramedics to learn what the patient’s environment was like. If it was stifling, Dr. Johnson thinks heat stroke; if the air conditioning was on and the room was comfortable, he may lean more toward other possibilities.

Part of the problem in diagnosing classic heat stroke promptly in the elderly is that it can be a challenge to obtain a reliable temperature reading from a patient with heat stroke. Measurements at the ear and rectum are ‘totally worthless’ because they correlate poorly with core temperature in this situation, the physician said.

Instead, he obtains a bladder temperature if a Foley catheter is in place, or runs an esophageal probe to get a posterior retrocardiac temperature reading. Often he’ll get both.

The concept of heat stroke lately has been re-defined. Heat stroke is not primarily a dehydration issue; that is just one component. Heat stroke is a systemic inflammatory response to hyperthermia leading to a syndrome of multiorgan dysfunction in which encephalopathy is prominent.

Patients typically arrive at the hospital with agitation, combativeness, or other mental status changes, a temperature above 104° F, tachycardia, and tachypnea. Often they are bleeding due to disseminated intravascular coagulation because anti-thrombotic factors have stopped functioning at high body temperatures.

There are a lot of complications. These folks that come in with heat stroke are going to spend a substantial time in your ICU’s,” he continued.

A question that comes up all the time is how much intravenous fluid to give for resuscitation. Dr. Johnson noted that U.S. military medicine guidelines call for just 1-1.5 L rather than the 3-4 L or more often still given in the civilian world. Israeli and Saudi physicians, whom Dr. Johnson considers the world’s top experts in the management of heat stroke, also routinely use 1.5 L and have great success with it.

In his own practice he uses normal saline because he can’t be of a theoretic concern that lactate may not be metabolized in the liver.

Hypnotic Agents May Protect Against Falls in Frail Elderly

DENVER — The conventional wisdom holding that prescribing hypnotic agents for nursing home patients increases their risk of falling and hip fracture may not be correct.

A recent study involving more than 34,000 Michigan nursing home residents suggests an alternative explanation: The increased burden, number of medications being taken, and intensity of resource utilization, the investigators concluded that insomnia—but not hypnotic use per se—was predictive of future falls, noted Dr. Avidan, professor and chairman of the department of psychiatry and behavioral medicine at Wake Forest University, Winston-Salem, N.C.

Dr. Avidan and colleagues went on to speculate that the use of hypnotics to treat insomnia is the frail elderly might actually protect against falls. Dr. McCall called that ‘a very provocative statement.’

Regardless of whether a randomized trial ever actually demonstrates that hypnotics do not increase and perhaps even do protect against falling in the frail elderly, Dr. McCall noted that there is no doubt that sleep problems are more common in the elderly than in any other age group, and that those sleep difficulties produce next-day impairments in cognitive ability that can be easily confused with dementia.

This underscores the importance of appropriately assessing and treating elderly patients with sleep problems using the behavioral therapies and/or medications, particularly the newer short-acting nonbenzodiazepine-zolpidem (Ambien), zaleplon (Sonata) and eszopiclone (Lunesta)—with demonstrated efficacy in this setting, he said.

Saudi-Style Misting Cools Heat Stroke Patients Fast

S. NOWMASS, Colo. — The top priority following diagnosis of heat stroke is to start rapid cooling of core body temperature—and American physicians have much to learn from their Saudi Arabian colleagues in this regard, Eric Johnson, M.D., said at the annual meeting of the Wilderness Medical Society.

Saudi physicians are arguably the world’s most expert at treating heat stroke. After all, they get the most practice. Every year they manage vast numbers of patients felled by heat stroke on the pilgrimage to Mecca.

The Saudis do so in enormous field tents equipped with huge fans. Heat stroke victims are brought to the tents and suspended on netting stretchers while the fans blow a fine mist of 32° C water on them.

“They do an incredible job cooling these patients,” said Dr. Johnson, an emergency department physician in Boise, Idaho, and president-elect of the society.

In fact, he has been so impressed with the Saudi evaporative cooling technique that he has adopted it in the emergency departments in which he works. Dr. Johnson calls it the Mecca body cooling unit. It consists of a stretcher made of netting, a big fan, and a Mister spraying body-temperature water. Alternatively, a naked patient can be sponged with lukewarm water while being fanned with room air.

Published: September 15, 2005

FAMILY PRACTICE NEWS • September 15, 2005