

NEUROLOGY

Life After Septic Illness

Septic illness may continue to affect patients' lives long after they've been discharged, say researchers from London Health Sciences Center, London, Ontario, Canada. They determined that patients can experience problems with physical, sensory, emotional, and cognitive functioning even 4 years after surviving sepsis.

The researchers surveyed 8 patients in the experimental (sepsis) group (inclusion criteria included a discharge diagnosis of sepsis as defined by the culture of bacteria or fungi from the blood or body site at least 1 year prior) as well as 15 patients in the control (cardiac) group (inclusion criteria included a discharge diagnosis of acute myocardial infarction and admission to the coronary care unit at least 1 year prior). The 2 groups were chosen to compare patients with life-threatening illnesses, while distinguishing long-term changes that might be attributed to the effects of sepsis on brain function.

The patients completed 3 questionnaires: the Adult Neuropsychological History form, which assesses difficulties with cognition, memory, and other skills controlled by the brain; and the Sickness Impact Profile (both Individual and Family Member forms), which evaluates health status based on behaviors, including sleep, emotional behavior, body care, mobility, and social interaction, among others.

No significant differences were found between the 2 groups in regard to responses on the Adult Neuropsychological History form. Responses on the Sickness Impact Profile revealed only 1 significant

difference: sepsis group patients and their family members reported more difficulty with work than the cardiac group. After excluding individuals who were retired from the workforce (resulting in 5 sepsis and 8 cardiac patients being included in the analysis), it was noted that a greater percentage of patients in the sepsis group than the cardiac group reported difficulties related to problem solving, concentration, and memory (80% vs 25%, respectively); sensory (60% vs 12.5%, respectively); and physical ability (100% vs 37.5%, respectively). Patients in the sepsis group and their families also reported greater dysfunction in the areas of body care, movement, emotional behavior, and sleep and rest, when compared with the cardiac group.

The long-lasting effects may be due to persisting neurological deficits, the researchers hypothesize. Four patients were "definitely encephalopathic," and the fact that all patients in the sepsis group were critically ill and on ventilators for more than 1 week indicates that the others also probably had some degree of encephalopathy and critical illness polyneuropathy. No patient had electroencephalograms or neuroimaging to confirm this, however. One patient had severe polyneuropathy confirmed on electromyographic studies.

The 1- to 4-years postdischarge follow-up effectively reduced the pool of potential study participants, since a number of patients who had sepsis died in the intervening years. Despite this limitation, the researchers say that, by ensuring individuals met criteria for sepsis and excluding those with any other medical conditions that could affect neurologic outcome and quality of life, they "can be more

confident that the difficulties reported by the sepsis group are a result of having survived a septic illness"—not just any life-threatening illness. Although the number of patients in each group was small, they add, the effect sizes (a measure of the magnitude of the difference between groups) were large. An effect size of 0.15 to 0.40 reflects a small difference, while 0.75 to 1.1 reflects a large difference. In this study, the effect sizes for the sensory, physical, and behavior categories of the Neuropsychological History form were 1.13, 2.41, and 1.37, respectively. The effect sizes for the sections of the Sickness Impact Profile that showed significant group differences ranged from 1.11 to 3.64.

The next step, the researchers say, is to conduct a prospective study of sepsis survivors with objective measures of physical, sensory, emotional, and cognitive functioning. Further research could investigate the effects of sepsis on outcome in patients who survive multiple trauma, including traumatic brain injury.

Source: *J Crit Care*. 2010;25(3):406-412.
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CANCER

Radical Radiotherapy In the Elderly

Even men over age 75 years may be good candidates for radical radiotherapy for prostate cancer, according to researchers from Arcipedale S'Anna University Hospital, Ferrara; National Cancer Institute, Aciano; and University of Catania, Catania; all in Italy.

One hundred seven consecutive patients affected by locally advanced prostate cancer with stage II (87%) or

stage III (13%) were eligible for study inclusion. The patients were divided into 3 age groups: 75 to 79 years (60.7%), 80 to 84 years (29%), and over 84 years (10.3%). Patients also were classified according to the number of comorbidities: none (23.4%), 1/mild (46.7%), 2/mild (23.4%), and 3/severe (6.5%). Comorbidities included those common to the geriatric population: hypertension, congestive heart disease, and renal insufficiency. Eighty-one patients (75.7%) received radical radiotherapy treatment in combination with 6 months of androgen suppression therapy.

Median follow-up was 35 months (range, 9 to 88 months). At the time of statistical analysis, 12 patients had died, 5 due to cancer relapse. Five-year survival was 78%. Median survival was 34 months, but extended as long as 88 months. Patients with no or mild comorbidities survived longest (87%), compared with those who had moderate or severe comorbidities (45%). Five-year disease-free survival was 73%; tumors recurred in 14 patients (13.1%).

The main toxic effect was diarrhea, affecting 75 patients (70.1%). Twenty-one patients (19.6%) developed a late toxicity. At 60 months, 78% of patients were free of late adverse effects. No significant differences were found among the 3 age groups.

Older age often has been considered a barrier to intensive treatment. But the researchers say “it is difficult to determine a standard therapy... based only on chronological landmarks” because aging is so individual. The key to success, they propose, is to carefully assess comorbidities. They found that having no or mild comorbidities independently predicted better survival. Increasing severity of comorbidity can significantly shorten life expectancy to the point that it

minimizes or even negates the benefit of radical radiotherapy. In fact, 7 of 8 deaths (87.5%) in the moderate/severe comorbidity subgroups were not cancer related.

Source: *Arch Gerontol Geriatr.* 2010;51(3):277–282.
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NUTRITION

Individualized Nutrition for Stroke Victims

Tailoring nutritional support for the older stroke patient can aid in recovery by preventing clinically significant weight loss and improving quality of life, say researchers from Østfold Hospital Trust, Fredrikstad; Oslo University Hospital; and University of Oslo; all in Norway. Even a “relatively short” period of intervention (11 days) in the postacute setting in the hospital led to substantial clinical improvement after 3 months.

The researchers randomly assigned acute stroke patients (age, > 65 years) at nutritional risk to 2 groups: routine care or individualized care. Routine care included oral sip feedings or tube feeding at the discretion of the attending physician. Individualized care included using oral energy- and protein-rich feedings or enteral tube feeding according to each patient’s individual intake and needs.

One hundred twenty-four patients completed the study and were reviewed after a median of 94 days in the intervention group and 93 days in the control group. Eight patients were undernourished when the study began; 5 in the intervention group and 3 in the control group. Most of the patients were included in the study based on poor food intake due to dysphagia, reduced appetite, chewing problems, and other feeding problems related to the stroke.

At 3 months, mortality was similar in the intervention group and in the control group (14.8% vs 11.9%, respectively; $P < .65$). The patients who died were older and weighed less. In the intervention group, fewer patients lost $\geq 5\%$ of their body weight compared with the control group (20.7% vs 36.4%, respectively). The intervention group improved significantly compared with the control patients in functional mobility, self-care, and usual activities. In addition, they had fewer problems with walking around, getting dressed, and washing themselves. The intervention group also had a significant (20%) increase in a visual analog score that rated self-perceived state of health, compared with no change in the control group.

The intervention group had a significant (10.6%) increase in handgrip strength; the control group lost handgrip strength. The researchers suggest that the key to the success of the intervention may be protecting against alterations in muscle function. They also note that nutritional supplementation might have increased the antioxidative capacity and reduced oxidative brain damage after stroke. ●

Source: *Clin Nutr.* 2010;29(5):567–573.
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