Chemo-Induced Cognitive Deficit Usually Transient

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Contributing Writer

ATLANTA — Cognitive impairment occurs in some patients during chemotherapy but usually resolves after treatment is over, according to several longitudinal studies presented at the annual meeting of the American Society of Clinical Oncology.

In a study of 54 patients with breast cancer, about one-third of patients had cognitive impairment during chemotherapy, but by 6 months after the end of treatment, 87% of patients had no impairment, Dr. Lynn I. Wagner reported.

About 25% of patients had cognitive impairment before the beginning of treatment, a phenomenon that has been observed previously. The mechanism underlying this finding remains unknown.

The study enrolled patients with breast cancer who were about to undergo adjuvant chemotherapy. The patients, of whom 96% were female, took a panel of neuropsychological tests and provided self-reported data on fatigue, cognitive dysfunction, anxiety, depression, and sleep before, during, and 6 months after chemotherapy. Cognitive impairment was defined based on performance on the tests, compared with published norms.

The investigators assessed cognitive function at three time points: within the 2 weeks before starting treatment, within 2 weeks of finishing treatment, and 6 months later.

Of the 54 patients with complete results, nearly two-thirds of patients (63%) had no impairment before, during, or 6 months after treatment. Another 14% had transient impairment during treatment, 4% of patients developed impairment during treatment that did not resolve, and 7% had impairment at all assessments. The remaining patients (11%) started out with impairment but had either sustained (9%) or transient (2%) improvement.

"One suspicion I have is that perhaps these patients had anemia or some other problems that were corrected during the course of chemotherapy," explained Dr. Wagner, of the department of psychiatry and behavioral sciences at the Northwestern University, Chicago.

Another longitudinal prospective study, presented by Dr. Sadhna Kohli, evaluated cognitive impairment in 595 patients with cancer, most of whom had breast cancer (54%) or prostate cancer (20%). All patients were scheduled to undergo treatment but had not yet received radiation therapy or chemotherapy. Most patients received chemotherapy, either alone (37%) or with radiation (23%), and the other 40% received radiation alone.

Patients were an average of 57 years old, and 66% were female. About half of the patients (54%) had some college education. This study defined impairment according to performance on a 10-point scale of memory and concentration.

As in the first study, cognitive impairment was common at baseline, with memory problems present in 50%-55% of patients in each group. Of the patients who received chemotherapy alone or with radiation, the frequency of memory problems increased significantly during treatment to 81.8% and 75.4%, respectively, by the end of treatment. Memory problems subsequently resolved in about 5% of patients, leaving 76.4% and 70.6% of patients, respectively, with memory problems 6 months after the end of treatment.

Among the patients who received radiation alone, the frequency of memory problems remained more stable, with 48.5% and 59.0% experiencing problems at the end of treatment and after 6 months, respectively. However, the severity of memory problems increased at each assessment among patients treated with radiation. Overall, problems with concentration followed a similar pattern in each group.

"These changes are usually subtle … and are, more often than not, known to the patient only," explained Dr. Kohli in her presentation.

Dr. Kohli, of the department of radiation oncology and a cancer control fellow at the University of Rochester (N.Y.), added that these subtle changes can significantly affect a patient's quality of life.

In a discussion of these studies, Tim A. Ahles, Ph.D., said that definitions are important when it comes to evaluating subtle cognitive deficits.

"For many people, 'deficit' isn't really the correct word—it is more of a reduction in function from pretreatment levels," said Dr. Ahles, an attending clinical psychologist at Memorial Sloan-Kettering Cancer Center in New York. ■