

'Chemo brain' may occur before treatment even starts

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Study suggests mental fog, fatigue tied to chemotherapy may be partly due to stress.

(HealthDay)—So-called "chemo brain"—problems with thinking, concentrating and remembering that are associated with receiving chemotherapy—may actually start to occur before the treatment is initiated, a small new study suggests.

In the new study, pre-treatment mental fog and fatigue were associated with thought-process problems (also called "cognitive" problems) that have previously been assumed to be directly related to the treatment.

"It's hard not to believe that [chemotherapy](#) could damage the brain, but we found evidence of the problems occurring in many women even before the therapy had begun," said lead author Bernadine Cimprich,

associate professor emerita at the University of Michigan School of Nursing.

Cimprich said previous studies on the mental effects of chemotherapy have offered a range of conclusions, but she felt none fully answered key questions about the cause of the mental fog and fatigue, and the timing of those problems. She and her colleagues wondered whether the stress of anticipating chemotherapy and treatment could be responsible for at least a portion of the chemo-brain experience.

"Our study isn't saying chemo brain doesn't exist but that there are other factors that may make women vulnerable to it and may compound the impact," Cimprich said.

The research was scheduled to be presented Friday at the San Antonio Breast Cancer Symposium. Because this study was presented at a medical meeting, the data and conclusions should be viewed as preliminary until published in a peer-reviewed journal.

Chemotherapy involves treatment with cancer-killing drugs that may be given intravenously (injected into a vein) or by mouth. It is given in cycles, with each period of treatment followed by a recovery period, and treatment usually lasts for several months.

The researchers tested 97 women, including 65 who had localized breast cancer and 32 healthy women without cancer. The women with cancer had all had surgery, while 28 were going to receive chemotherapy and 37 were going to receive radiation therapy. Before treatment and a month after treatment was begun, the participants performed a verbal memory task during functional MRI brain imaging and reported on their fatigue levels.

Women who underwent chemotherapy performed less accurately on the

mental task tests both before treatment and after treatment. They also reported a higher level of fatigue.

Why did the women anticipating chemotherapy show a greater incidence of chemo brain than did those who were awaiting radiation therapy?

"Anticipation of toxic side effects may increase the burden of distress," Cimprich said.

"It's a big decision for a lot of women, especially when they have a choice [of whether to have chemotherapy or not]," she explained.

Cimprich said the research is encouraging because it suggests that early intervention may reduce or even prevent thought-process problems in women who will be getting chemotherapy. "It opens up the paradigm of attack. If the problems were only caused by the chemotherapy, there wouldn't be much we could do to prevent them," she explained.

There are probably multiple sources of the thought-process difficulties women with breast cancer experience, Cimprich said, including worry and concern about the prospect and potential impact of chemotherapy.

Cimprich said there are several things health care providers can do to help eliminate the problems, including being aware that these issues can begin before treatment. She added that it is important that care providers understand that women awaiting chemotherapy are more vulnerable to thought-process problems related to chemotherapy and fatigue. "We may be able to identify women at greater risk," she said.

Preventive treatment options, Cimprich said, include exercise and activity, cognitive behavioral therapy and mindfulness therapy, such as meditation.

Dr. Julie Gralow, a professor in the medical oncology division of the

University of Washington School of Medicine and director of breast medical oncology at the Seattle Cancer Care Alliance, said the study was well done and will change the way she talks with women with [breast cancer](#) facing treatment after surgery.

Gralow said that when she's warning women about the potential issues associated with chemotherapy, she'll be sure to say, "You may already be experiencing some of this now."

More information: Learn more about chemotherapy for breast cancer from the [American Cancer Society](#).

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