An estimated 11.1 million Americans are living with cancer. Many have received chemotherapy, and a portion of patients treated with chemotherapy develop cognitive difficulties, often referred to as “chemo brain.” Chemotherapy-induced cognitive impairment can impact all areas of a patient’s life. Yet little education is given to patients and families regarding the potential side effect prior to initiation of cancer treatment. This is, in part, because nurses may struggle with understanding the scientific causes behind the cognitive disabilities. This article will describe hypothesized pathophysiology, signs and symptoms, and potential contributing factors of chemotherapy-induced cognitive impairment. Potential treatment strategies, including pharmacologic and nonpharmacologic interventions, also will be discussed.

At a Glance

- Chemotherapy-induced cognitive impairment is believed to occur because of alterations in the blood-brain barrier, vascular injury, and myelination changes, and it may have a genetic link.
- The cognitive difficulties from chemotherapy are unique and can last for months to years after treatment.
- Medications, exercise, stress management, nutrition, and support groups may be beneficial in addressing cognitive challenges.

Definition of Chemotherapy-Induced Cognitive Impairment

Chemotherapy-induced cognitive impairment is described as dysfunction, weakening, or impairment (Coyne & Leslie, 2004; Staat & Segatore, 2005) of memory in patients who have been treated with chemotherapy for cancer. Cognitive impairment