Information about and Coping with Chemo Brain

Courtesy of the American Cancer Society

For the complete article and references please see:
http://www.cancer.org/docroot/MBC/content/MBC_2_3x_Chemobrain.asp

For many years cancer survivors have worried about, joked about, and been frustrated with the mental cloudiness they notice before, during, and after chemotherapy. We don't know its exact cause, but this mental fog is commonly called *chemo brain*. Patients have noticed chemo brain for some time, but only recently have studies been done that could start to explain it.

Research has shown that some cancer drugs can, indeed, cause changes in the brain. Imaging tests have shown that in some patients, the parts of the brain that deal with memory, planning, putting thoughts into action, monitoring thought processes and behavior, and inhibition are smaller after chemotherapy.

Some people report having these symptoms even before they start treatment. Others report it even though they have not had chemotherapy. Still others notice the problem when they are getting hormonal treatments. So the term chemo brain may not be completely accurate, but it is what most people call it right now.

Though the brain usually recovers over time, the sometimes vague yet distressing mental changes cancer patients notice are real, not imagined. These changes can make people unable to go back to their school, work, or social activities, or make it so that it takes a lot of mental effort to do so. They affect daily activities and need to be researched further.

What is chemo brain?

Here are just a few examples of what patients call chemo brain:

- forgetting things that they usually have no trouble recalling—memory lapses
- trouble concentrating—they can't focus on what they're doing
- trouble remembering details like names, dates, and sometimes larger events
- trouble multi-tasking, like answering the phone while cooking, without losing track of one of them—less ability to do more than one thing at a time
- taking longer to finish things—slower thinking and processing
- trouble remembering common words—can't finish a sentence because you can't find the right words

For some people these effects happen quickly and only last a short time, while others have mild, long-term mental changes. Usually the changes that patients notice are very subtle, and others around them may not even notice any changes at all. Still, the people who have problems are well aware of the differences in their thinking. Many people do not tell their health care team about this problem until it affects their everyday life.
Doctors and researchers call chemo brain "mild cognitive impairment" and define it as being unable to remember certain things and having trouble finishing certain tasks or learning new skills.

Is chemo brain real?

Yes, chemo brain is real, but its cause is unknown. How often it happens, what may trigger it, or what can be done to prevent it, is also unknown.

Pictures of the brain have shown changes in the brain activity of breast cancer survivors treated with chemo when compared with those who were not treated with chemo. These changes were still seen on scans 5 to 10 years after treatment stopped. Chemo brain could be caused by any one or any combination of the following factors:

- the cancer itself
- chemo drugs
- other drugs used as part of treatment (such as anti-nausea or pain medicines)
- patient age
- stress
- low blood counts
- sleep problems
- infection
- depression
- tiredness (fatigue)
- hormone changes
- anxiety

What is known is that chemo brain is a real problem that affects both men and women. Even though chemo does not seem to be the only cause, studies have suggested that up to 70% of people who get chemo will notice symptoms of chemo brain.

What can I do to manage chemo brain?

Day-to-day coping

Experts have been studying memory for a long time. Many resources are available to help you sharpen your mental abilities and manage the problems that may come with chemo brain.

Some things you can do are:

- Use a detailed daily planner. Keeping everything in one place makes it easier to find the reminders you may need. Serious planner users keep track of their appointments and schedules, to do lists, important dates, phone numbers and addresses, meeting notes, and even movies they'd like to see or books they'd like to read.
- Exercise your brain. Take a class, do word puzzles, or learn to do something new.
- Get enough rest and sleep.
- Exercise your body. Regular physical activity is not only good for your body, but also improves your mood, makes you feel more alert, and decreases tiredness (fatigue).
- Eat your veggies. Studies have shown that eating more vegetables can help you maintain brain power.
- Set up and follow routines. Pick a certain place for commonly lost objects and put them there each time. Try to keep the same daily schedule.
- Don't try to multi-task. Focus on one thing at a time.
- Track your memory problems. Keep a diary of when you notice problems and the events that are going on at the time. (You might track this in your planner.) Medicines taken, time of day, and the situation you are in may help you figure out what affects your memory. Keeping track of when the problems are most noticeable can also help you prepare by not planning important conversations or appointments during those times.
- Try not to focus on how much these symptoms are bothering you. Accepting the problem will help you deal with it. As many patients have noted, being able to laugh about things you can't control can help you cope. And remember, you probably notice your problems much more than others do. Sometimes we all have to laugh about forgetting to take the grocery list with us to the store.

Telling others

Another thing you can do to better manage chemo brain is tell family, friends, and your health care team about it. Let them know what you are going through. You may feel relieved once you tell people about the problems you sometimes have with your memory or thinking.
You are not stupid or crazy; you just have a side effect that you have to learn to manage. Even though this is not a change that is easy to see, like hair loss or skin changes, your family and friends may have noticed some things and may even have some helpful suggestions. For example, your partner may notice that when you are rushed, you have more trouble finding things. Tell your loved ones what they can do to help. Their support and understanding can help you relax and make it easier for you to focus and process information.

Many large hospitals and cancer centers have specialists who test brain function, including the symptoms of chemo brain. Testing can help specialists find the extent of your symptoms and then suggest the best mental exercises for you. You may want to ask for a referral to one of these specialists who can help you learn the scope of your problem and work with you on ways to manage your memory or thinking problems.

Can chemo brain be prevented?

The cause of chemo brain is unknown and at this time there is no way to prevent it. It seems to happen more commonly with high doses of chemo. But because chemo brain is usually mild and most often goes away over time, proven and effective chemotherapy plans should not be changed to try to prevent this side effect.

What is being done about chemo brain?

Now that chemo brain has been linked to cancer and its treatment, studies are being done to learn more about it. Some studies are looking to find out which chemo drugs and other treatments are more closely linked to chemo brain. Researchers are also looking at possible ways to prevent chemo brain, as well as ways to help survivors who are still having trouble thinking. Researchers are studying other aspects of cancer treatment that may lead to long-term mental changes, too. For example, they are looking at the types and doses of chemo the patients had, other cancer-related symptoms (like tiredness), and genetic differences among individuals to see if these factors are linked to a higher risk of chemo brain.

Future directions

Looking at how chemo brain happens

Recent studies have shown clear evidence of nerve damage from at least some forms of chemotherapy. But studies of the effects of chemo drugs on brain cells are still rare. This area is a focus of ongoing research. Scientists must find out which nerve cells or brain cells are at risk during cancer treatment in order to develop ways to reduce damage, save brain function, and maintain the quality of life in long-term survivors.

There is more concern about chemo brain now because cancer treatment study results have shown better outcomes with the use of more aggressive, high-dose drug schedules. There are also newer targeted drugs that are known to affect certain pathways that are part of nerve cell formation and stem cell function, which heightens the concern. Discovering which nerve cells are affected may also let scientists test new drugs for this side effect when they are being developed.

Preventing chemo brain

Cancer experts also are looking into treatment options that may protect the brain from chemo side effects. Research is being done on targeted drugs that focus on the cancer cells and spare normal, healthy cells, such as brain and nerve cells.

Treating chemo brain

Recognizing chemo brain as a treatment side effect was the first step. Doctors and researchers are now trying to measure it -- how exactly does it affect patients' brains and cause changes? This information will hopefully help them find ways to not only treat chemo brain, but prevent it.

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