Researchers find link between cancer, diabetes drugs and reduced risk of Alzheimer's disease

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People who have endured chemotherapy for some cancers appear to have a lower incidence of Alzheimer's disease, as do long-term users of a commonly prescribed diabetes drug, scientists have found in separate medical investigations.

Both research projects are opening new windows, some experts said, on how unrelated diseases and unexpected medications may have a protective impact on the brain.

No one wants to develop cancer and undergo chemotherapy, or, for that matter, take a potent diabetes medication to avoid Alzheimer's, said Dr. Gisele Wolf-Klein, a geriatrician and expert in Alzheimer's disease with the North Shore-Long Island Jewish Health System.

But the take-home message, she said, is that Alzheimer's is extraordinarily complex, and the new research helps reveal people at lower risk.

"Any study on Alzheimer's disease that is presented at a recognized national meeting is of interest because it raises public awareness and awareness in the scientific world," said Wolf-Klein, who was not involved in either of the new investigations. The two studies were presented at the Alzheimer's Association International Conference in Boston this week.

The research involved 3.5 million former members of the U.S. military who were treated for a variety of conditions in the Veterans' Administration health care system between 1996 and 2011, and were free of dementia when admitted.

Dr. Laura Frain, a geriatrician at the VA Boston Healthcare System, said the aim of her research was to evaluate the relationship between 19 different cancers, cancer treatment and Alzheimer's disease.

Among the cancers she evaluated were many of the most common - breast, prostate, lung and colorectal malignancies. She also examined cancers of the blood and lymphatic tissue. Patients were 65 and older.

Her research revealed that chemotherapy provided added protection against dementia.

During the six years veterans were tracked, 82,028 were diagnosed with Alzheimer's. Yet, only 24 percent of them had a history of cancer compared with 76 percent who were never treated for a malignancy.

The research revealed a reduced Alzheimer's risk by as much as half for some forms of cancer. For example, there was a 51 percent lowered risk of Alzheimer's for liver cancer survivors; a 44 percent reduced risk for vets treated for pancreatic cancer, and a 25 percent lowered risk for those who had lung cancer.

"These findings indicate that the protective relationship between most cancers and Alzheimer's disease is not simply explained by increased mortality," Frain said, adding that more research is needed to find the underlying mechanism that spared patients' minds.

Yet, some forms of cancer and chemotherapy conferred no protective effect at all, clouding any evolving theory that cancer in general and all

forms of chemo protect the brain.

Cancers in which the Alzheimer's risk increased included melanoma, prostate and colorectal malignancies.

In the second investigation, Rachel Whitmer and colleagues at Kaiser Permanente's research division in California, studied nearly 15,000 patients 55 and older with type 2 diabetes.

The team discovered that metformin, a widely prescribed diabetes medication, reduced the risk of Alzheimer's by 20 percent.

Wolf-Klein said diabetes itself is a long-known risk factor for Alzheimer's disease.

But Whitmer noted that animal models suggest that metformin may aid in the development of new brain cells, which may, in turn, offset the damaging effects of the diabetes.