

Chemotherapy shown to affect memory in young cancer patients

July 8 2014, by Alison Barbuti



Shown is a close-up of an intravenous (IV) bottle. Credit: Linda Bartlett/public domain

(Medical Xpress)—A significant number of young cancer patients suffer

memory related side effects from chemotherapy according to a study by The University of Manchester to be announced at Teenage Cancer Trust's International Conference on Teenage and Young Adult Cancer, Royal Society of Medicine.

The study is particularly significant for young patients returning to education or work after treatment, and goes some way to proving the perceived experience of "chemo-brain" or poor concentration and memory reported by many patients.

Preliminary results show that [chemotherapy patients](#) display decreases in performance on a range of [cognitive tests](#), which persist at least up to five years post-treatment. More than half perform in the bottom 10% of the population for spatial abilities and a quarter performed in the bottom 10% for long-term verbal memory.

Undertaken by Oana Lindner, final year PhD student in School of Psychological Sciences at The University of Manchester - part of Manchester cancer research Centre - the study is the first of its kind to investigate the idea that chemotherapy impacts the brain of the 16 to 50 year old patients. Looking specifically at memory and attention performance, it is also the first in the UK to investigate several cancer groups – breast cancer, lymphoma, sarcoma and germ cell tumour.

Lily Anderson, 17, from Newmarket in Suffolk, was diagnosed with Hodgkin's lymphoma when she was 14 and was treated on a Teenage Cancer Trust unit at Addenbrooke's Hospital in Cambridge. Lily underwent chemotherapy, radiotherapy and a stem cell transplant and is now in remission.

Lily said: "I finished treatment a few months after my 16th birthday and tried to go back to Sixth Form. I definitely noticed a difference. It felt like my brain had become exhausted and more difficult to use. My head

was always fuzzy, and my memory and concentration were awful. I couldn't focus on anything for more than half an hour and trying to learn new things was very difficult. It made it almost impossible for me to continue with my school work.

"When I was younger, pre cancer, I was an A/A* student, and picked up things very easily. I breezed through SATS and loved challenging myself. It was difficult going from having such a bright, alive mind to having one that's sluggish and disconnected."

Oana said: "This means that many 16 to 50 year old cancer patients may have difficulties in learning and memory. It certainly seems to support the phenomenon of Chemo-brain that so many [cancer patients](#) experience. We are now working on additional analyses to account for other factors, such as depression or tiredness. Apart from studying the underlying mechanisms of these impairments, future analyses will also be aimed at finding out how long lasting these effects are."

Nigel Revell, Director of Education and Advocacy at Teenage Cancer Trust, said: "These findings confirm what we have long suspected that chemotherapy can impact young people who have gone through the treatment process and have returned back to their studies but are finding it harder to adapt, due to memory loss and lack of concentration span.

"Given the increasing number of people living with and beyond cancer, this is particularly pertinent. As Teenage Cancer Trust works with young people with cancer this is of particular interest for us as most of them are still in education and want to continue down this path once their [chemotherapy](#) is over."

Teenage Cancer Trust is the only UK charity dedicated to improving the quality of life and chances of survival for [young people](#) with cancer, aged 13 to 24. Over the last 24 years, they have developed and funded 27

specialist units across 18 cities in the UK, all in principle treatment centres for [cancer](#).

The full findings will be announced at the charity's conference, which is the world's most significant conference focusing on teenage and young adult cancers. The International Conference on Teenage and Young Adult Cancer runs from 7-8 July at the Royal Society of Medicine, London.

Provided by University of Manchester

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