Case Study: Treating Alzheimer's Disease With CT Scans

By Jerry Cuttler — May 11, 2017

For the past 120 years, X-rays have been used to treat a wide variety of maladies and due to their prevalence, we probably know more about the effects of radiation than any other agent. (1) A century ago, physicians who employed x-rays to image and diagnose illnesses discovered important remedies using low doses: it was linked to treatment for everything from boils and carbuncles to asthma and arthritis. Low radiation doses eliminated cancer metastases and delayed the progression of cancer.(2) The mechanism of action is now understood that low-dose radiation stimulated the patient's own protection systems.(3) High doses inhibit them.

Yet many consider even low dose radiation to be harmful now. Some groups even insist cell phones can cause cancer, though they don’t have ionizing radiation at all. What changed? One reason radiation therapy fell out of favor was the availability of antibiotics but a second, and more important, factor was efforts to stop atomic bomb development. In 1946, Nobel laureate Herman Muller gave the acceptance lecture which set the stage for adopting the linear dose-response model(4) and in 1956 a radiation scare gave the National Academy of Sciences, armed with a number of publications sympathetic to the beliefs of Muller, all the reason they needed.

The scare linked all human radiation exposure to an increased risk of genetic mutations (and cancer) but radiation exposure has still never been demonstrated to cause hereditary effects in humans. No statistically significant low-dose data support the cancer scare, and there is much scientific evidence that contradicts it. For example, a new paper presents evidence that lifelong low dose rates increase lifespan.(5)

Given the very high (and increasing) costs of patient care, it is time to study these potential
treatments and resume proven low-dose remedies.

The following are anecdotes but make my point about a rethink of the linear dose-response model. In April 2015, a colleague informed me that his 81-year-old wife, having advanced Alzheimer disease and a short life expectancy, entered hospice care. I suggested treating her with low doses of x-rays. The only option available was CT scans to image her brain. The first treatment on July 23 was 2 scans. Two days later, her caregiver reported: “It is amazing. I have never seen someone improve this much. She wanted to get up and walk. She was talking some, with more sense, and she was feeding herself again (figure 1).”(6)

Recovery continued, following the scans on August 6 and 20 though a major setback occurred right after the October 1 scan. Overall, her resilience led to a return of her cognitive ability, and in late November she was discharged from hospice to a stimulating day care program.4 In anticipation that the improvement might be temporary, booster scans were started on February 24, 2016. The interval between scans is now about 6 weeks.(7)

This colleague has Parkinson Disease, which is also neurodegenerative. After seeing his wife’s improvement, he asked for the same treatment. The first CT scan, on October 6, completely eliminated the tremor during his sleep, and he decreased his medication from 6 to 2 or 3 pills (Carbidopa/levodopa, 25/100 mg) per day. Following an in-depth neuropsychological examination on June 13, 2016, he started a course of CT scans, with a 4-week interval between each scan. Further examinations will be carried out to monitor changes in his condition.(7)

References


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