Diagnosis of Cognitive Dysfunction in Cancer Patients

Tharun Nayar [1,3], Homer Quintana [2]

[1] Lawrence E. Elkins High School, Missouri City, TX

[2] Houston Methodist, Houston, TX

[3] Gifted and Talented Mentorship Program, Fort Bend ISD, TX

Introduction

- When diagnosing dysfunction in the patient subsect, I reviewed the patient's answers to the questionnaire; additionally, a literature search aided in determining risk identifiers for chemo brain to assess patients conclusively.
- This subsect of patients was selected through the aforementioned risk identifiers and totaled 53 patients between ages 52 - 94 from both patient sources [undisclosed patient care center & oncological patient connections].
- All data obtained was voluntary and anonymous outside of age identifiers in order to create a patient group. Moreover, the questionnaire consisted of various simplistic, straightforward tasks designed to gauge motor skills or mental capacity, both of which deteriorate due to chemo brain.
- In summation, the questionnaire's anonymity and ease of access increased participation and led to more accurate, honest answers.

Objective

- Atlas Diagnostics seeks to create a centralized diagnostic service that analyzes cancer patients who have undergone chemotherapy and determines whether these persons have been impacted by cognitive dysfunction as a result of such treatment otherwise known as "chemobrain".

Methodology

- When diagnosing dysfunction in the patient subsect, I reviewed the patient's answers to the questionnaire; additionally, a literature search aided in determining risk identifiers for chemo brain to assess patients conclusively.
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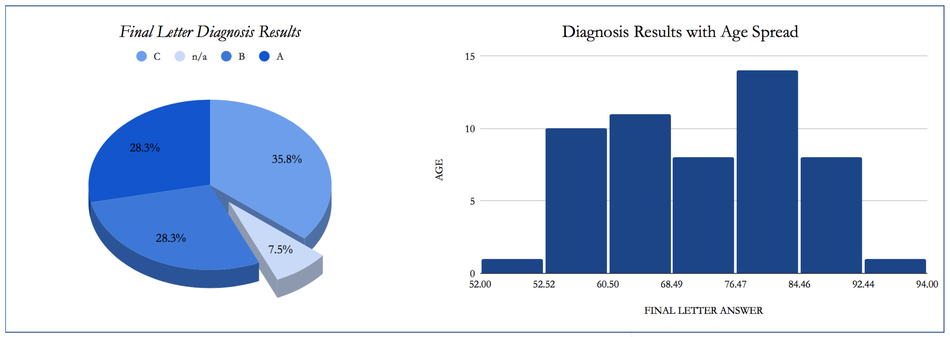
Abstract

- This paper aims to analyze the pressing issue of “chemo brain” in cancer patients who have undergone chemotherapy treatment. I seek to not only create a rapid, centralized method of diagnosing the problem but additionally test its effectiveness in use in current human subjects due to the lack of diagnostic tools in the status quo.
- Despite some homeopathic treatments and novel technologies, chemo brain is frequently undiagnosed and untreated. As such, an in-depth analysis of patients in the Houston area and an overall analysis of a centralized diagnosis tool is a novel idea that poses great philanthropic value for the people.
- The information gathered in this study will prove useful for the subjects who currently suffer from chemo brain and for families and the healthcare system, increasing efficiency and producing greater patient outcomes, improving patient quality of life overall.
- Moreover, the study analyzes the human subjects’ answers to questions that determine the severity. Hopefully, in the future, it will dictate a possible treatment plan for patients to not only identify the problem but also solve it as well.
- Overall the study shows that nearly 49 out of the 53 human subjects in the trial were affected by chemo brain. Out of these patients, 97.95% reported it to be the root of their symptoms, and more importantly, there was a 93.878% success rate when reviewed by healthcare specialists. This data is supported by Dr. Arash Asher of Cedars-Sinai, who confirms that 75% of cancer patients experience chemobrain.

Results



Findings

- The data in this study confirms our initial hypothesis in two key ways. First, it confirms the mutation hypothesis explored in the Stanford study. Secondly that our diagnosis questionnaire accurately creates a potential solution for accurate chemo brain diagnosis.
- The results thus show that 49 out of the 53 human subjects in the trial were affected by chemo brain to some degree. Out of these patients, 97.95% of them reported it to be the root of their symptoms, and most importantly, all of this was done with a 93.878% success rate when checked with the opinion of healthcare specialists.
- All of this data is supported by Dr. Arash Asher, director of Cancer Rehabilitation and Survivorship at Cedars-Sinai, who confirms that 75% of cancer patients experience chemo brain.

Discussion

- Overall, this study has three main limitations or shortcomings: the condition of human subjects, the sample size, and the condition itself.
- Firstly, patients' condition and mental capacity are always a huge factor, mainly because the data gathered is patient-based. As a result, while the data collected is accurate at one period of time a week later, their condition might deteriorate and prove a diagnosis inaccurate. This poses a potential roadblock as patients may have no symptoms of chemo brain and, as such, go undiagnosed for extended periods of time. More frighteningly, these patients deteriorate rapidly and may not get screened again, placing these patients in an irreversible state or past the point of return.
- Secondly, sample size, although over quantity for our purposes, a bigger sample size could again quell any doubt about whether the findings presented in this paper were generally accurate. Moreover, a greater sample size could allow us to continuously improve our diagnosis technology resulting in a better product and more patients receiving treatment earlier.
- Thirdly, due to the nature of chemo, brain patients may simply forget the symptoms or bouts of memory loss that they do have. results in any current diagnostic methods being extremely ineffective as patients never know to journal their symptoms or even reach out to a care provider in the first place. More importantly, it means that in our current study, without the use of constant monitoring by nurses or family members to document symptoms, some patients may have to live with chemo brain undiagnosed and untreated.
- All three problems could result in the findings of this paper being inapplicable to the population of Houston subjects or inaccurate to the point of deeming the diagnostic tool irrelevant. However, despite any potential shortcomings, the core purpose of this study is of the utmost importance, diagnosing and hopefully curing chemo brain.