

Platinum Study Newsletter

SUMMER 2023

A Platinum Study Update

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Stay connected with The Platinum Study Team! If you have moved, changed your email address, or have a new phone number, please notify your clinic or study team or you may share your contact information with the current study headquarters at Indiana University by:

- Calling us toll-free at 833-770-8700
- Emailing us at ptstudy@iu.edu

Thank you! Because of your participation and contributions, we are moving forward and learning more about the side effects of chemotherapy.

The study has now been opened to patients enrolled at Memorial Sloan Kettering Cancer Center, New York as well as in the British Columbia Cancer Agency (Vancouver). We are hoping to open Princess Margaret Hospital (Toronto), and the Royal Marsden Hospital (United Kingdom) within the year.

In TPS-I, we asked you to complete a questionnaire and a hearing test, and to provide us with a blood sample. In TPS-II, the current phase, we are asking you to complete a questionnaire. These combined phases have placed us closer to a better understanding regarding the long-term effects of your chemotherapy.

You will need to complete a consent

form before you receive the questionnaire. We are currently contacting patients by phone and email, requesting that you complete this.

If you haven't completed your questionnaire for TPS-II, please make every effort to do so, so that we can put your results together with those of other participants. The TPS-II questionnaire, when combined with the information you gave us in TPS-I, is a valuable informational tool that will help us to continue to determine the side effects from your chemotherapy, and possibly learn how to control these in the future.

The Platinum Study website contains a wealth of information, such as the latest research findings, investigator information, recent publications, annual newsletters, Platinum Study questions and answers, and more. The website can be found at <https://cancer.iu.edu/patients/surviving/platinum-study/index.html>

Featured Clinician: Dr. Victoria Sanchez

Dr. Sanchez is an Assistant Professor in the Department of Otolaryngology – Head and Neck Surgery within the Morsani College of Medicine at the University of South Florida. She serves as the Director of



Research for the department and is also the Chief of the Audiology Section within the Division of Otolaryngology. She provides clinical services, teaches, and leads several research studies. In the clinic, Dr. Sanchez sees patients across the life span and conducts diagnostic assessments to determine the type, degree, and configuration of hearing loss. In addition to being a nationally recognized clinician, she is also a principal investigator in the Auditory Rehabilitation and Clinical Trials Laboratory

(ARCT Lab) and her research areas of interest are speech perception, auditory cognitive neuroscience, auditory rehabilitation, evidence-based practice, and the effects of various disorders and interventions on the auditory and vestibular systems. Dr. Sanchez's current projects include developing and evaluating novel approaches to treat acquired forms of hearing loss, such as cisplatin-related hearing loss. She conducts research evaluating the ear-brain connection, because we hear with our brains not actually our ears. Dr. Sanchez is part of the research team that is conducting a randomized control trial to determine if hearing aids can improve brain health. Her research is funded by the National Institutes of Health and specifically through funding from the National Institute on Deafness and other Communication Disorders (NIDCD) and the National Institute of Aging (NIA).

Summary of Publications

Patient-Reported Functional Impairment Due to Hearing Loss and Tinnitus After Cisplatin-based Chemotherapy

Sanchez VA, Shuey MM, Dinh Jr. PC, Monahan PO, Fosså SD, Sesso HD, Dolan ME, Einhorn LH, Vaughn DJ, Martin NE, Feldman DR, Kroenke K, Fung C, Frisina R, Travis LB

Background: Research has shown that cisplatin-based chemotherapy, like that used to treat testicular cancer, can cause hearing loss and tinnitus. Research has also shown that hearing loss and tinnitus can be so difficult for the patient that their physical and mental health declines in other ways. Even though research had shown that hearing loss and tinnitus can be measured and are associated with other health problems, no one had evaluated how hearing loss and tinnitus affect the patient's daily life function and if these problems could be measured just by asking survivors to complete a self-reported survey.

What we did: We asked testicular cancer survivors (TCS) if they would like to participate in a research study. 243 TCS dedicated their time and effort to answer questionnaires about medical history, lifestyle, and comorbidities, as well as answering validated research questionnaires related to hearing loss and tinnitus, and quality of life. We then looked at the relationship between hearing loss or tinnitus with other health problems and patient's thoughts on how well they are functioning in daily life.

What we found:

Of the 243 TCS participating, 137 (56%) reported hearing loss and 147 (61%) reported tinnitus. 109 (45%) reported having both. Only 68 (28%) of TCS reported neither hearing loss or tinnitus. Among those TCS with hearing loss, one in three (36%) reported having significant difficulty performing daily activities that they attributed to hearing loss. These included those related to social or at-work activities. Similarly, individuals with tinnitus had worse functioning in various areas, including ability to concentrate and sleep, that they attributed to tinnitus. The greater the hearing loss or the worse the tinnitus, the greater the problem with these types of activities. When we used a clinical research tool to measure this type of "functional impairment", we observed that individuals with the most severe functional impairment due to either hearing loss or tinnitus were also more likely to report cognitive dysfunction, fatigue, depression, and lower overall health.

What does the study mean:

We determined that TCS who report hearing loss or tinnitus also more often report having significant difficulty performing daily activities in certain areas. It is important for TCS to continue to have regular evaluations for hearing loss and tinnitus. In the general population, when left untreated, hearing loss can be a significant risk factor for other conditions, including cognitive decline and eventually dementia. By getting regular evaluations and receiving care (e.g., using hearing aids), we can reduce these risks in TCS.

Associations of Body Fat Distribution and Cardiometabolic Risk of Testicular Cancer Survivors After Cisplatin-Based Chemotherapy

Wibmer AG, Dinh Jr PC, Travis LB, Chen C, Bromberg M, Zheng J, Capanu M, Sesso HD, Feldman DR, Vargas HA

Background:

Platinum-based chemotherapy puts testicular cancer survivors at increased risk for cardiometabolic disease, but some patients are more at risk than others. We think that the location of body fat may play a role in developing cardiometabolic risk. For example, fat deposits around the gut (called "visceral" fat) are more harmful than fat deposits under the skin around the body (called "subcutaneous"). If we learn how to identify those patients at greater risk, we can develop ways to lessen that risk before patients begin chemotherapy.

What we did:

455 testicular cancer patients enrolled in the Platinum Study at Memorial Sloan Kettering Cancer Center agreed to participate in this study. Before chemotherapy began, we measured visceral and subcutaneous fat to determine how much "harmful" fat

What we did: (continued)

the body contained. Patients then proceeded with their cancer treatments. After chemotherapy, we measured body fat amounts again and surveyed for signs of post-chemotherapy cardiometabolic disease (new antihypertensive, lipid-lowering, or diabetes medication).

What we found:

Patients were around 31 years at the time they entered the study (before chemotherapy). As a group, patients had body mass index (BMI) at the low end of overweight before chemotherapy. In patients considered obese by BMI score (30 kg/m² or above), the prechemotherapy ratio of visceral to subcutaneous fat indicated that these patients had a higher likelihood of new cardiometabolic disease (this was not true for other BMI groups). The prechemotherapy ratio was also associated with increased risk score for cardiovascular disease after chemotherapy. This association was stronger in younger vs older individuals. BMI increased in most patients after chemotherapy, along with the ratio of visceral to subcutaneous fat.

What does the study mean:

In our study, central adiposity is associated with increased cardiometabolic risk after cisplatin-based chemotherapy, particularly in obese or young men. These men also tend to gain weight post-chemotherapy, particularly around the belly (visceral fat). These observations give us some knowledge about how chemotherapy affects young men and provides ways to help prevent these developments and reduce cardiometabolic risk in testicular cancer survivors treated with chemotherapy.

The full published version of these articles can be accessed on our website at:

<https://cancer.iu.edu/patients/surviving/platinum-study/index.html>

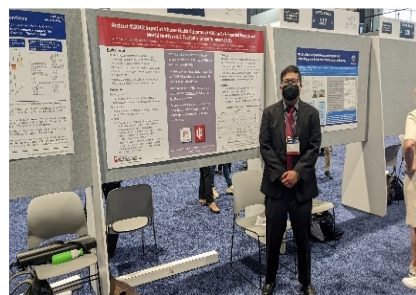
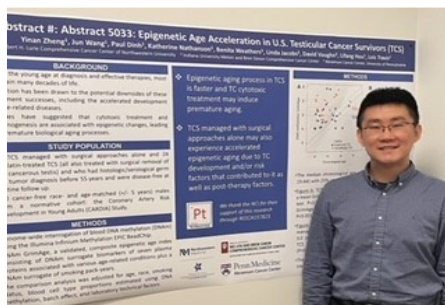
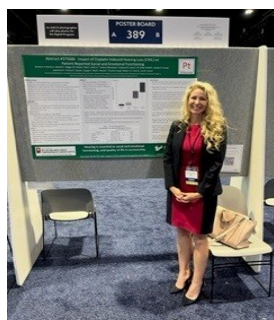
2022 ASCO POSTERS

American Society of Clinical Oncology 2022 Annual Meeting

The Platinum Study Team presented the results of five scientific abstracts at the June meeting, with the content of each abstract now on the study website: <https://cancer.iu.edu/patients/surviving/platinum-study/index.html>

- ◆ Nakshatri S, Shuey M, Shahbazi M, Trendowski M, Dinh P, Feldman D, Hamilton R, Vaughn D, Fung C, Kollmansberger C, Einhorn L, Frisina R, Travis LB, Dolan E, Cox N. Building a model to predict the risk of multiple severe neurotoxicities in cancer survivors after cisplatin treatment.
- ◆ Dinh P, Monahan P, Clasen S, Sesso H, Einhorn L, Fossa S, Vaughn D, Martin N, Fung C, Travis LB. Impact of Adverse Health Outcomes on Self-Reported Physical and Mental Health in U.S. Testicular Cancer Survivors.
- ◆ Sanchez V, Shuey M, Dinh P, Monahan P, Sesso H, Dolan E, Einhorn L, Vaughn D, Martin N, Fung C, Frisina R, Travis LB. Impact of Cisplatin-induced Hearing Loss on Patient-Reported Social and Emotional Functioning.
- ◆ Shuey M, Sanchez V, Dinh P, Monahan P, Sesso H, Dolan E, Einhorn L, Vaughn D, Martin N, Fung C, Frisina R, Travis LB. Cisplatin-induced Tinnitus and Patient-Reported Outcomes in Adult-Onset Cancer Survivors.
- ◆ Zheng Y, Wang J, Dinh P, Nathanson K, Weathers B, Jacobs L, Vaughn D, Hou L, Travis LB. Epigenetic Age Acceleration in U.S. Testicular Cancer Survivors.

Shown below with their respective poster presentations are Dr. Vicky Sanchez (U. of South Florida, Tampa), Dr. Yinan Zheng (Northwestern U., Chicago), and Dr. Paul Dinh (Indiana University, Indianapolis). Results by Dr. Sanchez and colleague are described in detail in this issue of the newsletter. More in-depth descriptions of other selected results will be presented in future newsletters.



Clinician's Corner: Hearing Loss

Dr. Victoria Sanchez

A person who is not able to hear as well as someone with normal hearing (defined as hearing thresholds of 20 dB or better in both ears) is said to have hearing loss. Hearing loss is very common. Nearly 20% of Americans older than 50 have hearing loss severe enough to affect daily life, and that number increases to 70% for those over age 70. Hearing loss is classified as mild, moderate, severe, or profound by audiologists. It can affect one ear or both ears and can lead to difficulty in hearing conversational speech. In addition to communication difficulties, untreated hearing loss in the general population may also be associated with negative health outcomes such as an increased risk of falls, an increase in hospitalizations, decreased physical function, and an increase in cognitive decline and dementia. Hearing loss has negative consequences for social engagement and loneliness as well as pathophysiological effects on the brain leading to psychological distress. Although there is no medical treatment to cure or restore hearing loss, there are successful rehabilitation options. An audiologist can provide these options to patients with permanent hearing loss and the rehabilitation can include the use of hearing aids or other assistive listening technologies. The use of hearing aids can greatly reduce the negative burden of hearing loss, and often can help with the perception of tinnitus too. Even though hearing loss can be a significant burden, many people wait an average of 10 years before seeking help for hearing loss. Reasons for waiting vary, but common beliefs include the perception that hearing aids are too expensive or that they aren't helpful in treating hearing loss. Hearing aids can help people with hearing loss and even more options are now available since the FDA's final rule on Over the Counter (OTC) hearing aids was determined. The new OTC devices tend to increase innovation and competition among OTC hearing aid companies and allow for more affordable hearing help options.

Happy 80th Birthday Dr. Einhorn!

A pioneer in cancer treatment research, in the 1970's Dr. Lawrence H. Einhorn developed cisplatin-based chemotherapy regimens that increased cure rates for germ cell tumors. Because of his groundbreaking work, the platinumating agents were subsequently developed and are now the most commonly used group of cytotoxic drugs worldwide. Given these remarkable achievements, Dr. Einhorn remains one of the most famous medical oncologists in the world.



Thank you to all who made Dr. Einhorn's 80th birthday special by sending cards. He received more than 120 cards from 25 states – and from one other country. Although he has always been incredibly modest about how much his patients, trainees and colleagues love and appreciate him, his wife reports that there was no better way to fill his day with joy than to remind him of the tremendous impact of his life's work.