

2019 Sarcoma Tissue Bank Report to Northwest Sarcoma Foundation

Sarcoma is a rare cancer, making up only 1 percent of all cancer cases, and it is often hard to diagnose and treat. As a rare disease, sarcoma-related clinical trial research is drastically underfunded by grantors such as the NIH and by pharmaceutical industry sponsors. This leaves huge numbers of patients with limited treatment options, and it results in poor outcomes for the thousands of people in the U.S. alone who suffer from this disease. Additionally, sarcomas encompass more than 70 subtypes, each varying in susceptibility to therapies, making treatment of these tumors difficult.

Since 2001, the Northwest Sarcoma Foundation has been an invaluable partner of the sarcoma program of UW Medicine and the Fred Hutchinson Cancer Research Center, allowing us to accelerate our research and directly address some of the barriers to treatment.

Your research funding has gone to support two main programs:

Casis Database

The Casis database (previously known as Sarcobase) allows our researchers to conduct detailed searches in order to find patients with given clinical parameters. It enables us to test hypotheses without needing a computational biologist or computer programmer. With your help, we have now abstracted approximately 2784 patients into this database.

A summary of recent grants, publications and clinical trials that have come out of the tissue data abstraction from the sarcoma program is listed at the end of this document. One example is our analysis of the socioeconomic factors that are predictors of overall survival in soft-tissue sarcoma patients (married patients had improved overall survival compared to single patients, but employment status and income level were not significantly associated with survival).

We have three projects using tissue bank samples that we expect to publish over the coming year. The first is an analysis of the immune microenvironment in liposarcoma to identify a potential biomarker that may improve our ability to predict outcomes for these patients and may help us to better tailor treatments for these patients in the future. We have submitted an abstract for this study to this year's AACR meeting. The second study is an analysis of patients treated on Trabectedin. We believe that macrophages, immune cells in the sarcoma tumor, may play an important role in patient response to this drug and have clinical trials already enrolling based on this hypothesis. This tissue-based study will help us understand better who responds to Trabectedin and further expand our experimental therapies. Lastly, we have identified a unique subset of infiltrating T-cells in certain sarcoma tumors and have a theory on how these might be activated in a novel clinical trial that we are now starting to design.

Tumor Bank

Prior to receiving NWSF support, the UW/FHCRC tumor bank had stopped collecting tissue samples due to lack of adequate funding. We now, once again, have a robust tissue collection program. Your ongoing support has also allowed us to start collecting blood and single-cell suspensions in some patients and tumors. Because the database and tissue bank are linked, our researchers receive exponentially more information from their queries than if they were separate.

We would like to thank the NWSF for your support of research in the Pacific Northwest. We know that your board and staff work hard to fundraise for the resources that support our research, and we are very grateful for all that you do.

Recent Publications

2016

Sponsor - Fred Hutchinson Cancer Research Center: Class I and Class II Restricted TCRs following Stereotactic Body Radiotherapy for NY-ESO-1 Expressing Sarcomas (grant)

2017

Sponsor - Fred Hutchinson Cancer Research Center: T cell Trafficking into the Cold Tumor Immune Microenvironment (grant)

Sponsor - EMD Serono: A Phase I/II Trial Combining Avelumab and Trabectedin for Advanced Liposarcoma and Leiomyosarcoma (clinical trial)

Sponsor - Merck: Pembrolizumab and Neoadjuvant Radiation for Large, High-Grade Soft Tissue Sarcomas (clinical trial)

Sponsor - Incyte: A Pilot Study Examining the Impact of the Jak1 Inhibitor Itacitinib On the Sarcoma Tumor Immune Microenvironment (clinical trial)

Publication - Cancer. 2017 Sep 1: Infiltration and clonality correlate with programmed cell death protein 1 and programmed death-ligand 1 expression in patients with soft tissue sarcomas (publication)

2018

Publication - ASTRO; San Antonio, TX; October 21-24, 2018: Married Patients with Soft Tissue Sarcoma Have Improved Overall Survival Compared to Single Patients (publication)