histopathologic treatment response. Imaging findings with tissue TK-1 and Ki-67 activity and assessment in soft tissue sarcoma: A pilot study to correlate sarcomas using the sarcoma nomogram.


FUNDING
- National Institute of Health
- Jonsson Comprehensive Cancer Center
- Sarcoma Foundation of America
- University California Cancer Research Committee
- UCLA Center for In Vivo Imaging in Cancer

PUBLICATIONS


AWARDS
- ASCO Foundation Merit Award
- UCLA Jonsson Comprehensive Cancer Center Award for Clinical Excellence
- Society of Nuclear Medicine Siemens Award
- Sarcoma Foundation of America Research Award

FUNDING
- National Institute of Health
- Jonsson Comprehensive Cancer Center
- Sarcoma Foundation of America
- University California Cancer Research Committee
- UCLA Center for In Vivo Imaging in Cancer

PUBLICATIONS


Sarcoma Clinical / Translational Research Program

Jonsson Comprehensive Cancer Center.

In collaboration with Medical Oncology we have established a translational platform for sarcomas with the goal of developing novel targeted therapies for sarcoma patients. Since 2005 I have collected 730 snap frozen patient samples and obtained complete genomic (SNP or CGH array) and / or transcriptomic (mRNA array) data on 275 distinct samples. This nationally unique annotated sarcoma tissue bank serves as the foundation for genomically driven research. Targeted therapeutics are being tested against sarcoma cell lines, murine models and xenografts in a high throughput manner and the molecular mechanisms of inhibition are being characterized. This platform has allowed us to obtain novel targeted therapies for five separate sarcoma clinical trials. In addition, we are transitioning the UCLA Sarcoma Database to a secure, user friendly database within the JCCC. The UCLA Sarcoma Database (established in 1976) has captured and updated through continuous follow-up the complete clinical, pathologic, and treatment information on over 10,000 patients. This project will provide broader data access to investigators in our program and allow for greater patient capture.

Ahmanson Biological Imaging.

I have conducted three prospective clinical trials using molecular imaging to monitor response to therapy in sarcoma patients. Over 250 patients have been enrolled in these studies demonstrating that changes in quantitative FDG-PET are accurate at predicting response to therapy in sarcoma patients. The initial two studies found that FDG-PET is significantly more accurate than the current size based criteria (RECIST) and a 35% reduction in tumor FDG uptake after the initial cycle of therapy is a sensitive predictor of response. These projects laid the foundation for a recently completed clinical trial using a novel molecular proliferation marker 18F-deoxyfluorothymidine (FLT) to evaluate treatment response in sarcoma patients.

Institute of Molecular Medicine.

Sarcoma has become a Program Area in IMED. In a novel mouse model that my collaborator genetically engineered, we have found that loss of expression of a gene (PTEN) led to mice with characteristics of neurofibromatosis type 1(NF1), complete with the development of malignant peripheral nerve sheath tumors (MPNST, a malignant sarcoma) from benign neurofibromas. We then translated this novel finding to human MPNSTs that arose in patients with NF1, found a similar loss of expression of this gene, and demonstrated that this malignant transformation could be imaged with FDG-PET. Our collaboration has broadened to include other xenograft models of human sarcomas that will serve as a bridge between genetically engineered mouse models and human patients for identification of major genetic lesions and testing targeted therapies.