



CENTER FOR SARCOMA AND BONE ONCOLOGY

EWING'S SARCOMA

RESEARCH DESCRIPTION

In 2011, the [Center for Sarcoma and Bone Oncology](#), facilitated the translation of a laboratory finding detected by colleagues of [George Demetri, MD](#), director of the Center for Sarcoma and Bone Oncology, at Massachusetts General Hospital into a clinical trial testing a new class of therapeutic drug against Ewing's sarcoma. The original laboratory research indicated heightened sensitivity to a drug that inhibits an enzyme called PARP. For reasons still unknown, PARP inhibition led to a uniquely powerful anti-cancer effect in Ewing's sarcoma cells.

The collaboration between Dana-Farber's Center for Sarcoma and Bone Oncology and other Harvard-affiliated researchers was the first in the world to test a PARP inhibitor in Ewing's sarcoma patients. However, the drug was not effective on its own. Dr. Demetri's research team then probed more deeply to discern that the PARP inhibitor worked best against Ewing's sarcoma cells when combined with chemotherapy. With this knowledge, Dr. Demetri helped initiate a clinical trial supplementing PARP inhibition with chemotherapy, yielding significant efficacy.

Recently, clinical trials testing the inhibitor as a treatment for a particular subtype of ovarian cancer have yielded promising results, encouraging further clinical development of the drug. This point is an especially salient reminder of the important link between sarcoma and other, more common cancers, showing that discoveries in sarcoma can have broad applications.