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I and my colleagues from the Melanoma Center of the UPMC Hillman Cancer Center (Hillman) are grateful for the support of the Woiner Foundation in support of Melanoma Research.

The support received over the past 7 years has been a pillar of developmental research and career enhancement programs for established and new faculty of the Hillman Melanoma Program, one of the largest and deepest in the world, offering more than 20 new and promising treatment options for patients in the region. These include early detection and therapeutic prevention, adjuvant treatment to improve the cure with surgery, and advanced disease programs that have improved overall survival of this disease, even when surgery is not possible, from months to years—with the prospect of cure in up to half of patients now. The 52 publications of the Hillman Melanoma Program over the past year (2018-19) year include exciting new advances that have been enabled and accelerated with Woiner Foundation support:

PREVENTION

In early disease detection this has led to new published work that suggests we can teach primary care physicians to detect early melanoma, before it has the chance to be lethal. New programs of oral therapy with nutritional agents (sulforaphane) have been developed and are being brought to the national clinical trials networks (ECOG-ACRIN cooperative group).

ADJUVANT THERAPY TO CURE MELANOMA

Adjuvant therapies given after surgery for melanoma have previously shown the ability to reduce relapse by a quarter, but new treatments of two types have been developed that show the ability to cut relapse risk by half, either with immunotherapy (PD1 checkpoint blockade) or with inhibitors of the BRAF gene that is activated in half of melanoma patients. We have pioneered new treatment designs (neoadjuvant therapy) that now place immunotherapy before surgery for patients with regionally advanced disease, showing major pathologic responses in 70% of patients at 8 weeks of treatment that may set a new standard for treatment, and are being brought into national trials in ECOG-ACRIN this year.

ADVANCED INOPERABLE DISEASE

In advanced disease the advent of more than 10 new treatments has revolutionized the treatment prospects for patients with melanoma. The major challenge here is to overcome resistance to immunotherapy, and work that has been done at the Hillman Melanoma Program has brought forward new agents that improve the response to immunotherapy with PD1 checkpoint immunotherapy, new ways to change the gut microbiome to improve PD1 checkpoint immunotherapy response, and new classes of agents that promise to overcome checkpoint immunotherapy (PD1) response.

The advances that have been made over the past 7 years owe a debt of gratitude to the 321Ride, and the Woiner Foundation, for its steadfast support. Our new faculty and fellows pursuing cutting edge research in this area are working with the goal of preventing melanoma, improving the cure of

melanoma at initial surgery, and in the years to come, curing this disease even at advanced stages that lie beyond surgery.

The Melanoma Program of the UPMC Hillman Cancer Center:

John M. Kirkwood, Co-director

Hassane M. Zarour, Co-director

Yana Najjar, MD, faculty

Diwakar Davar, MD, faculty

Jason Luke, MD, faculty

Anjali Rohatgi, MD, PhD, fellow in medical oncology

William Maguire, MD, PhD, fellow in medical oncology

Lilit Karapetyan, MD, PhD, fellow in medical oncology