Contact Information

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Project Requirements and Description

Requirements to submit AOI (all answers must be "yes" to proceed)

A comprehensive review of previously published data has been completed	Yes
The specific aims are clear and focused	Yes
The investigator has appropriate experience and expertise to develop the concept proposal; if not, has identified a mentor or senior co-investigator.	Yes
The investigator agrees to develop an initial draft of the concept proposal within 6 weeks of approval of the AOI and to finalize the concept proposal within 6 months	Yes

Project Title Understanding Immune Phenotypes in Long Term Survivors

Planned research population (eligibility criteria)

Survivors with chronic health conditions
Treatment matched controls without chronic health conditions
Survivors with second malignant neoplasm

Proposed specific aims

1. Compare immune phenotypes in adult survivors of childhood cancer versus those in matched healthy controls.
2. Test if there are distinct immune signatures that differ between cohorts that develop chronic health conditions and second malignancies versus those that do not.
3. Identify broad “immune-types” in survivors with unbiased approaches and correlate these with other clinical data in these survivors.

Background:
Immune system plays a major role in pathogenesis of several health conditions including protection from pathogens, malignancies, as well as chronic health conditions such as metabolic syndrome and obesity. In recent studies, we have applied several complementary high-dimensional approaches (1, 2) to study immune system in > 200 children with B-ALL, both at initial diagnosis and with early recovery (<3 years) following completion of therapy (unpublished). Our data demonstrate wide variance in phenotypes and trajectories of immune recovery in these children (unpublished). We hypothesize that adult survivors of childhood malignancy will exhibit similar (or even greater) degrees of variance in terms of immune phenotypes, and these differences will translate into differential risk in terms of long-term health, including risk of second malignancies, metabolic syndrome and infections. Understanding this biology may pave the way for targeted interventions to prevent these chronic health conditions.

We therefore propose to characterize immune phenotypes of adult survivors of childhood cancer with a combination of high-dimensional assays to address these issues.

References:
1. Bailur JK, McCachren SS, Pendleton K, Vasquez JC, Lim HS, Duffy A, et al. Risk-associated alterations in marrow T cells in pediatric leukemia. JCI Insight. 2020;5(16).
2. Gilbert JR, Sabnis HS, Radzievski R, Doxie DB, DeRyckere D, Castellino SM, et al. Association of race/ethnicity with innate immune tumor microenvironment of children with B-acute lymphoblastic leukemia. Journal for immunotherapy of cancer. 2022;10(6).

Will the project require non-CCSS funding to complete? Yes

If yes, what would be the anticipated source(s) and timeline(s) for securing funding? NIH funding will be pursued. Institutional funding is also available to begin the project.

Does this project require contact of CCSS study subjects for:

Additional self-reported information	No
Biological samples	No
Medical record data	No

If yes to any of the above, please briefly describe.

What CCSS Working Group(s) would likely be involved? (Select all that apply)

Second Malignancy	Secondary
Psychology/Neuropsychology	
Genetics	
Cancer Control	
Epidemiology/Biostatistics	
Chronic Disease	Primary

Outcomes or Correlative Factors

Late Mortality	Secondary
Second Malignancy	Primary

Health Behaviors

Tobacco	Correlative Factors
Alcohol	Correlative Factors
Physical Activity	Correlative Factors
Medical Screening	Correlative Factors
Other	

If other, please specify

Psychosocial

Insurance	
Marriage	
Education	Correlative Factors
Employment	Correlative Factors
Other	

If other, please specify

Medical Conditions

Hearing/Vision/Speech	
Hormonal Systems	
Heart and Vascular	Primary
Respiratory	

Digestive	
Surgical Procedures	
Brain and Nervous System	
Other	

If other, please specify

Medications

Describe medications

Psychologic/Quality of Life

BSI-18	
SF-36	
CCSS-NCQ	
PTS	
PTG	
Other	

If other, please specify

Other

Pregnancy and Offspring	
Family History	
Chronic Conditions (CTCAE v3)	Correlative Factors
Health Status	Correlative Factors

Demographic

Age	Correlative Factors
Race	Correlative Factors
Sex	Correlative Factors
Other	

If other, please specify

Cancer Treatment

Chemotherapy	Correlative Factors
Radiation Therapy	Correlative Factors
Surgery	Correlative Factors

Anticipated Sources of Statistical Support

CCSS Statistical Center	No
Local Institutional Statistician	Yes

If local, please provide the name(s) and contact information of the statistician(s) to be involved.

Will this project utilize CCSS biologic samples? Yes

If yes, which of the following? Peripheral blood

If other, please explain

Other General Comments

This proposal is a collaboration between Dr Kavita Dhodapkar (Emory/CHOA) and Dr Smita Bhatia (UAB).

Agree I agree to share this information with St. Jude

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