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What’s been the most interesting development in your area in the last two years?
The most influential developments in cancer immunotherapy in the last several years have been the successes of clinical trials combining immunotherapy with other standard of care treatments. It is easy to forget that it has only been about 10 years since the results of the first trials using checkpoint blockade immunotherapy to treat metastatic cancer, and it has been in the last five years that we have seen the use of immunotherapy move beyond melanoma and renal cell carcinoma to the treatment of lung cancer, head and neck cancer, hepatocellular cancer and others. What has happened in the most recent trials is the use of immunotherapy has been expanded beyond the metastatic setting and combined with standard of care chemotherapy and radiation to treat earlier stage disease, sometimes with dramatic increases in progression free survival and overall survival (such as the PACIFIC trial for treatment of Stage III lung cancer). I believe the rational combination of immunotherapy with other cancer therapies, such as surgery, radiation, targeted therapy and traditional chemotherapy will lead to increased survival in many cancers in the next few years.

What projects are you currently working on and are there opportunities for fellow faculty to participate?
My lab is focused on understanding the biology of immune dysfunction in patients with cancer. Given the many successes of the past decade in cancer immunotherapy research, it is important to remember that the majority of patients treated with our current generation of immunotherapy regimens do not respond to treatment. The immunobiology of anti-tumor immunity is complex, and there are many steps along the way where immune dysfunction can arise. In the context of cancer there can be defects in the priming of anti-tumor immunity, there are immunosuppressive mechanisms within the tumor microenvironment (which is where our currently approved treatments focus their effects) and there can be intrinsic dysfunction of the tumor-specific T cells (which is where my research is focused). We are investigating the reasons why these intrinsic defects in anti-tumor T cells develop so that we can identify mechanisms to prevent or reverse the dysfunction in the effector cells of our immune system. Collaborations to help further these efforts are always welcome and, in many cases, required to do the work at all. In one of my current projects I am isolating the immune cells from different stages of cancer to determine if the disease stage correlates with epigenetic immunosuppression of the T cells resident within the tumor. This work won’t be possible without the cooperation and participation of fellow faculty at all stages of the project.

What is the most important aspect of support that OHSU provides to you currently and how would you like this or other support to grow in the future?
The most critical aspect of my success will be the multidisciplinary collaborative environment that is integral to the clinical and research programs at OHSU. Much of the work I am currently engaged in would not be possible if teams of clinicians and researchers focused on the common goal of cancer therapy and research were not in place. The project studying the genomic underpinnings of T cell dysfunction I mentioned in the previous section would not be possible for me to pursue without clinicians willing to provide samples, an epigenetics core to perform the sequencing, and bioinformatics support to aid with data analysis.
analysis. The same can be said of the clinical research mission at OHSU. It is not possible to plan or run the next generation of clinical trials, which will involve multiple treatment modalities delivered in concert, without teams of physicians and researchers working together with appropriate resources. I believe investment in these resources and collaborations is the most critical component to our success in developing the next generation of cancer therapies here at OHSU.

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