47th Annual Scientific Meeting (ISEH), Los Angeles, CA, USA – meeting report

The annual meeting of the International Society for Experimental Hematology (ISEH) gathers every year scientists from top universities worldwide. It covers a wide range of blood research from healthy to malignant hematopoiesis at different developmental stages as well as the latest updates on emerging cutting-edge technologies that significantly advance the field. This year's meeting was held at the Luskin Conference Center of UCLA in Los Angeles, California, USA from August 23rd-26th.

One of the central topics of this year's meeting was the role of the bone marrow microenvironment in regulating hematopoiesis under homeostasis and disease. Linheng Li's group (Stowers Institute for Medical Research, Kansas City, USA) reported the identification of two functionally distinct hematopoietic stem cell (HSC) types, termed reserved (rHSCs) or primed (pHSCs). Both types exhibit similar behaviors under homeostasis, but only rHSCs are capable of driving hematopoietic regeneration after chemotherapy. Interestingly, rHSCs were predominantly found closer to endosteal surfaces in comparison to pHSCs, which were more centrally located and therefore closer associated with blood vessels. Bone cells are thought to be more resistant to chemotherapy which might explain why neighboring rHSCs are also less sensitive to chemotherapy. In the context of leukemia, Dr van Galen (Bernstein laboratory, Massachusetts General Hospital, Boston, USA) presented single-cell transcriptomics data from acute myeloid leukemia (AML) patients. He reported that leukemia stem cells' transcriptional signature is closer to healthy granulocyte-macrophage progenitors (GMPs) rather than HSCs, thus challenging the current notion in the field that LSCs closely resemble HSCs. In addition, he showed that AML cells can alter their microenvironment in an immunosuppressive manner, by inactivating the function of T cells. Interestingly, I also had the opportunity to present my latest work (10-minute talk) during the New Investigators Award session for postdoctoral fellows hosting the top 3 submitted abstracts. Our data on the localization of distinct types of HSCs relative to the bone-marrow niche help resolving a number of long-standing controversies and attracted a lot of attention from numerous researchers. Based on the reviews from a panel of judges, I was awarded with the 1st prize for postdoctoral fellows (Eugene Cronkite award).

In addition to the highly interesting talks, the stimulating poster session was an excellent opportunity to meet fellow researchers working in different labs, exchange feedback and get ideas for future projects. In summary, I am very grateful to the German Stem Cell Network for giving me the opportunity to attend the 47th Annual ISEH meeting. It was a valuable experience meeting and discussing with world's leading experts in the field of hematology and maintain/create new connections.

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