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Lessons from Translational Research in Myeloid Leukemia

Faculty Presenter
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Scholar Summary

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Dr. Ross Levine started the enthusiastic discussion on myeloid leukemia treatment by sharing his own career path in discovering JAK2 as the activating mutation for myeloproliferative neoplasm, characterizing the mechanism for lack of effect on mutant allele burden upon JAK2 inhibitor treatment, and identifying novel targets to delineate the mechanism of leukemia transformation. These perfectly illustrated the translational research model of molecular target discovery: starting with patient sample to discover the gene of interest, characterizing the mutant gene, developing inhibitors, engaging in preclinical studies and then clinical studies back into patients.

The discussion then moved onto current research progress in acute myeloid leukemia (AML). Recent advancement in sequencing has allowed identification of multiple recurring mutations in AML (e.g. IDH1, DNMT3A, TET2, ASXL1) and correlation of their association with clinical outcome. With the emergence of novel targeted therapy in AML, Dr. Levine called for participation in the Beat AML Master Trial in an effort to accelerate testing, approval, and development of promising targeted therapy upfront. Dr. Levine also provided valuable advice for trainees on mentorship, the transition from trainee to independent investigator, research collaboration, and approach to establish novelty of research focus, which made this session especially inspiring.