616. Acute Myeloid Leukemia: Novel Therapy, excluding Transplantation: Novel Targeted and Immune-based Approaches in the Treatment of AML

811

Remissions of Acute Myeloid Leukemia and Blastic Plasmacytoid Dendritic Cell Neoplasm Following Treatment with CD123-Specific CAR T Cells: A First-in-Human Clinical Trial

Lihua Budde, MD, PhD[1], Joo Y Song, MD[1*], Young Kim, MD[1*], Suzette Blanchard, PhD[1*], et al.

The authors of the study conclude that:

In this first-in-human clinical trial of CD123CAR T cell therapy, we have demonstrated the feasibility and safety of targeting CD123. We have also observed promising anti-leukemic activity in both AML and BPDCN. Importantly, no myeloablative effects have been observed, supporting further testing of this immunotherapeutic strategy in both transplant eligible and ineligible patients.

812

Targeting the Transcriptional Addiction of Leukemia Stem Cells By a New Class of Protein Kinase Inhibitors

Yinon Ben-Neriah, MD, PhD[1*], Avanthika Venkatachalam, MSc[1*], Avner Fink, PhD[1*], Eric Hung,

MSc[1*], J et al.

The authors of the study conclude that:

We developed a new class of small molecule inhibitors that co-targets CKIα and P-TEFb. These inhibitors have unique pharmacologic properties: short-term kinase inhibition results in long-term disruption of SE activity. Shutdown of leukemic super-enhancers in synergy with robust p53 activation compromises leukemic cells and stem cells addicted to SE-driven transcription. These features explain the powerful and specific anti-leukemic therapeutic effects of this new class of inhibitors in-vivo.

813

Preliminary Results from a Phase Ib Study Evaluating BCL-2 Inhibitor Venetoclax in Combination with MEK Inhibitor Cobimetinib or MDM2 Inhibitor Idasanutlin in Patients with Relapsed or Refractory (R/R) AML

Naval Daver, MD[1], Daniel A. Pollyea, MD[2,3], Karen W.L. Yee, MD[4*], Pierre Fenaux, MD, PhD[5], et al.

The authors of the study conclude that:

Preliminary results show that VEN plus cobi or idasa can be administered with appropriate risk mitigation measures for GI toxicity and early evidence of clinical activity in R/R AML pts. Dose finding is ongoing and the MTD for both combinations has not yet been determined. Preliminary ORR for the VEN 600 mg + idasa 200 mg cohort was encouraging at 38%. Safety, PK and efficacy data will be updated at the time of presentation.

814

TAK-243 Is a Selective UBA1 Inhibitor That Displays Preclinical Activity in Acute Myeloid Leukemia (AML)

Samir H. Barghout, BSPharm, MSc[1,2], Parasvi Patel, BSc (Hons)[1,2*], Xiaoming Wang[1*], G. Wei Xu[1*], S et al.

The authors of the study conclude that:

TAK-243 is a potent and selective UBA1 inhibitor that displays preferential activity towards AML cells over normal hematopoietic cells. Acquired mutations affect drug binding and may be a clinically relevant mechanism of resistance. These data support conducting a clinical trial of TAK-243 in patients with AML.

815

Phase 2 Study of Combination of Cytarabine, Idarubicin, and Nivolumab for Initial Therapy of Patients with Newly Diagnosed Acute Myeloid Leukemia

Farhad Ravandi, MBBS[1], Naval Daver, MD[2], Guillermo Garcia-Manero, MD[2], Christopher B Benton, MD[3], et al.

The authors of the study conclude that:

Addition of nivolumab to ara-C and anthracycline induction chemotherapy is feasible and safe in younger pts with AML. Among the pts proceeding to alloSCT the risk of GVHD is not significantly increased.

816

Selinexor in Combination with Cladribine, Cytarabine and G-CSF for Relapsed or Refractory AML

Geoffrey L. Uy, MD[1], Michael P Rettig, PhD[1], Theresa Fletcher[1*], Peter A Riedell, MD[2], et al.

The authors of the study conclude that:

That selinexor + CLAG is highly active in patients with relapsed or refractory AML and has encouraging rates of CR. Furthermore, the combination serves as a bridge which allows a high percentage of patients to undergo allogeneic hematopoietic cell transplantation.