The Role of HNRNPC::RARG in APL-like AML
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Acute promyelocytic leukemia (APL) is a subtype of AML characterized by t(15;17)(q24.1, q21.1)/PML::RARA

Standard of care typically involves ATRA and ATO

Recent cases have been identified that morphologically resemble APL but are resistant to ATRA and ATO

These cases involve RARG instead of RARA, with a myriad of fusion partners, like HNRNPC, a reader protein of m6A involved in pre-mRNA processing

Identification and treatment are urgent due to disseminated intravascular coagulopathy (DIC)

Background

Recombinant cloning
- HNRNPC and RARG were cloned separately into MSCVI vectors previously
- Exon 3 of HNRNPC CDS was then cloned with exons 4-10 of RARG CDS into the retroviral vector MSCVI
- Fuse, insert, obtain

Hypothesis

HNRNPC::RARG rearrangement plays a significant role in the transformation of "APL-like" leukemia and may serve as a marker for targeted therapy

Methods

Obtain retrovirus via co-transfection with packaging plasmids in 293-T cells

Adapt a mouse model, transplanting infected HSCs into mice

Other fusions (e.g. HNRNPCL, CPSF6)

References
