Combination therapy for acute lymphoblastic leukemia

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A subset of acute lymphoblastic leukemia (ALL) patients is positive for the Philadelphia chromosome, which is generated by a specific translocation event that causes a fusion between the *BCR* and *ABL1* genes. These patients unfortunately have a poorer prognosis and a more limited response to tyrosine kinase inhibitors that are used to treat other forms of ALL.

In this issue of *JCI Insight*, Charles Mulligan of St. Jude Children's Research Hospital and colleagues show that a combination approach using tyrosine kinase inhibitors and an inhibitor of focal adhesion kinase (FAK) was much more effective in preclinical models of BCR-ABL1$^+$ B-progenitor ALL. They demonstrate that FAK is overexpressed in several models of BCR-ABL1$^+$ ALL and that the FAK inhibitor VS-4718 synergizes with tyrosine inhibitor dasatinib to decrease tumor growth in mouse models.

Collectively, their work indicates that a combination approach, targeting both FAK and tyrosine kinases, is a promising treatment strategy for this subset of ALL.

More information: Michelle L. Churchman et al. Synergism of FAK and tyrosine kinase inhibition in Ph+ B-ALL, *JCI Insight* (2016). DOI: 10.1172/jci.insight.86082

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