Genetic mutations may add to racial disparity in child B-ALL

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(HealthDay)—Hispanic/Latino (H/L) children with B-cell acute lymphoblastic leukemia (B-ALL) have an increased incidence of *IKZF1* deletion and *IGH-CRLF2* translocation, according to a letter to the editor published online Feb. 2 in *Leukemia*.

Gordana Raca, M.D., Ph.D., from the Children's Hospital Los Angeles, and colleagues analyzed clinical and molecular data from 239 pediatric B-ALL patients (164 self-reported as H/L and 75 classified as non-H/L) treated between March 2016 and July 2019 to examine the biological basis underlying the health disparity in H/L children with B-ALL.

The researchers found that compared with the non-H/L population, the H/L population had a significantly higher incidence of *IKZF1* deletion (29 versus 15 percent). In the H/L versus non-H/L population, the concomitant *IKZF1* deletion with *CRLF2* translocation was strongly increased (12 versus 0 percent). A strong bias was seen in the association of *IKZF1* deletion with specific *CRLF2* translocation: In patients with *IKZF1* deletion, the *IGH-CRLF2* translocation was increased ninefold versus the *P2RY8-CRLF2* fusion (18/164 versus two/164). In the H/L versus the non-H/L population, *IKZF1* deletion concomitant with *IGH-CRLF2* translocation was strongly increased (11 versus 0 percent).

"These mutations offer an explanation for the poor prognosis and increased incidence of B-ALL in Hispanic and Latino children and offer us insight into this pediatric cancer health disparity," a coauthor said in a statement. "Sequencing these genes in Hispanic and Latino children with B-ALL is essential to help pediatric oncologists determine a prognosis for these patients and develop appropriate treatment plans."

More information: Abstract/Full Text