

Copy number alterations define outcome in Philadelphia chromosome-positive acute lymphoblastic leukemia

Helena Hohtari,¹ Niels Pallisgaard,² Matti Kankainen,^{1,3,4,5} Pekka Ellonen,⁶ Oscar Brück,¹ Timo Siitonen,⁷ Marjaana Säily,⁷ Marjatta Sinisalo,⁸ Marja Pyörälä,⁹ Maija Itälä-Remes,¹⁰ Perttu Koskenvesa,¹¹ Erkki Elonen,¹¹ Satu Mustjoki^{1,5,12} and Kimmo Porkka^{1,5,11}

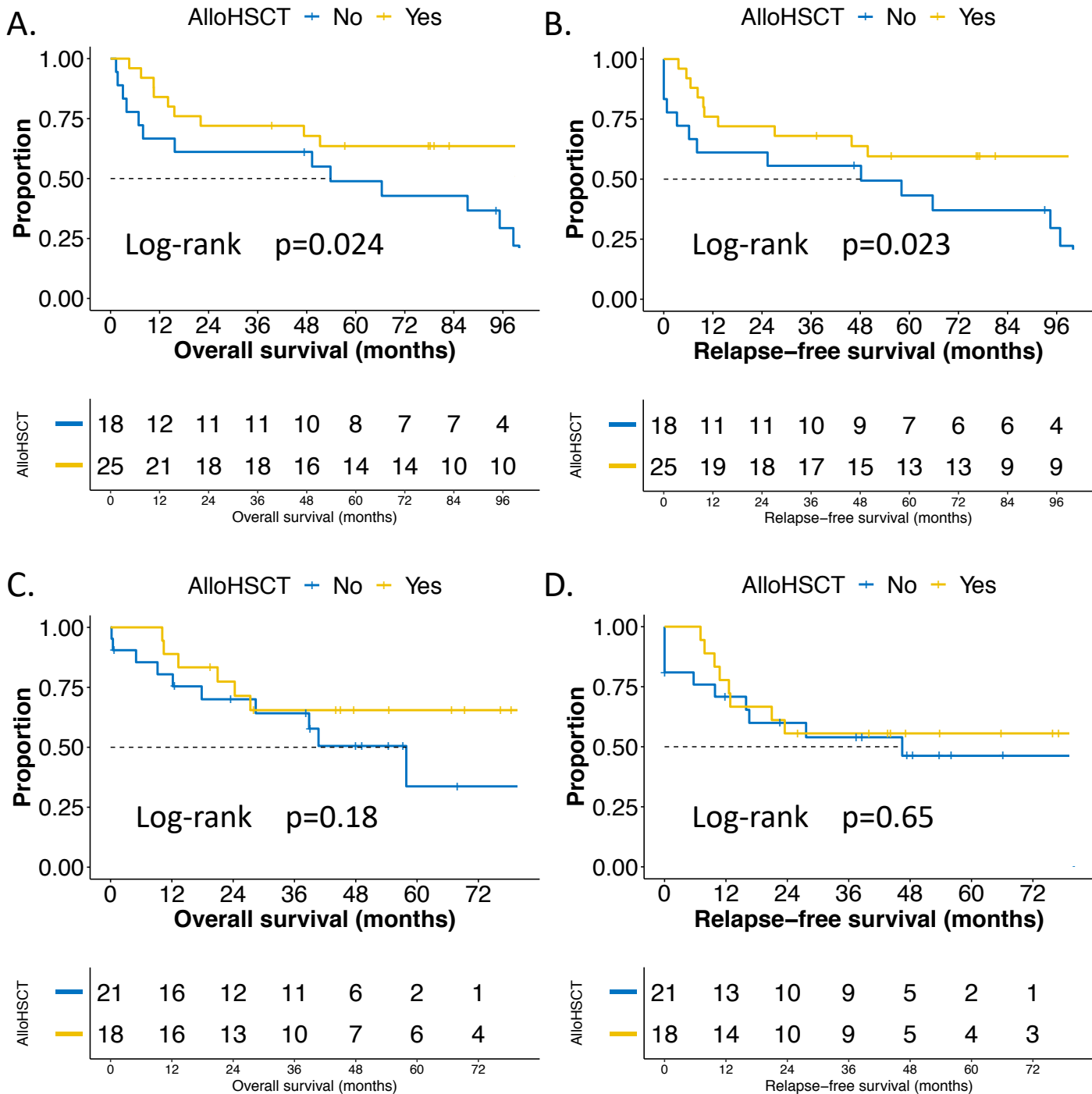
¹Hematology Research Unit Helsinki, Translational Immunology Research Program, University of Helsinki and Helsinki University Hospital Comprehensive Cancer Center, Helsinki, Finland; ²Department of Pathology, Zealand University Hospital, Roskilde, Denmark; ³Laboratory of Genetics, HUS Diagnostic Center, Hospital District of Helsinki and Uusimaa (HUS), Helsinki, Finland; ⁴Medical and Clinical Genetics, University of Helsinki, Helsinki University Hospital, Helsinki, Finland; ⁵iCAN Digital Precision Cancer Medicine Flagship, Helsinki, Finland; ⁶Institute for Molecular Medicine Finland, University of Helsinki, Helsinki, Finland; ⁷Division of Hematology, Oulu University Hospital, Oulu, Finland; ⁸Division of Hematology, Tampere University Hospital, Tampere, Finland; ⁹Division of Hematology, Kuopio University Hospital, Kuopio, Finland; ¹⁰Division of Hematology, Turku University Hospital, Turku, Finland; ¹¹Division of Hematology, Helsinki University Hospital Comprehensive Cancer Center, Helsinki, Finland and ¹²Department of Clinical Chemistry, University of Helsinki, Helsinki, Finland.

Correspondence:

K. PORKKA - kimmo.porkka@helsinki.fi

<https://doi.org/10.3324/haematol.2021.280578>

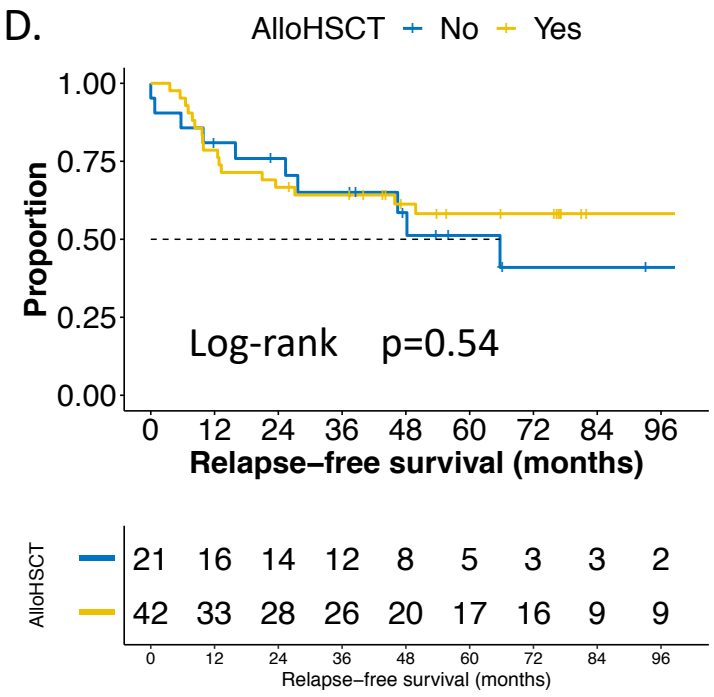
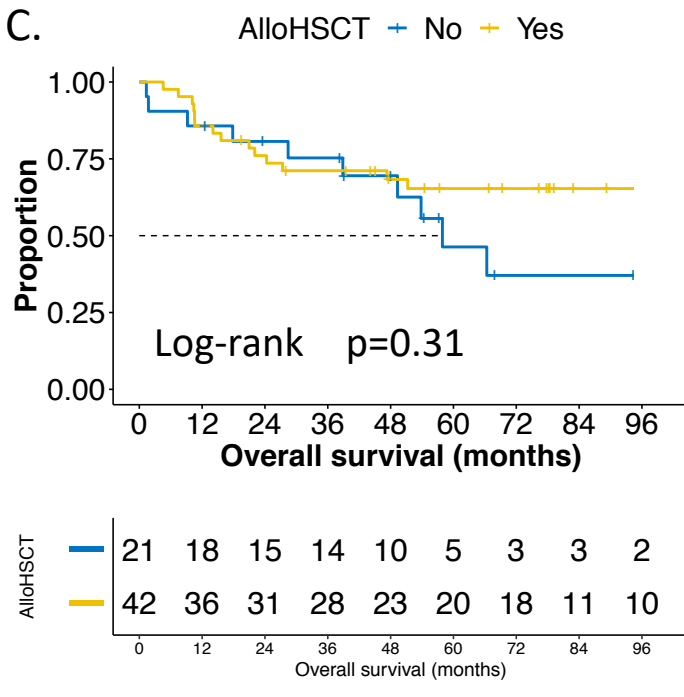
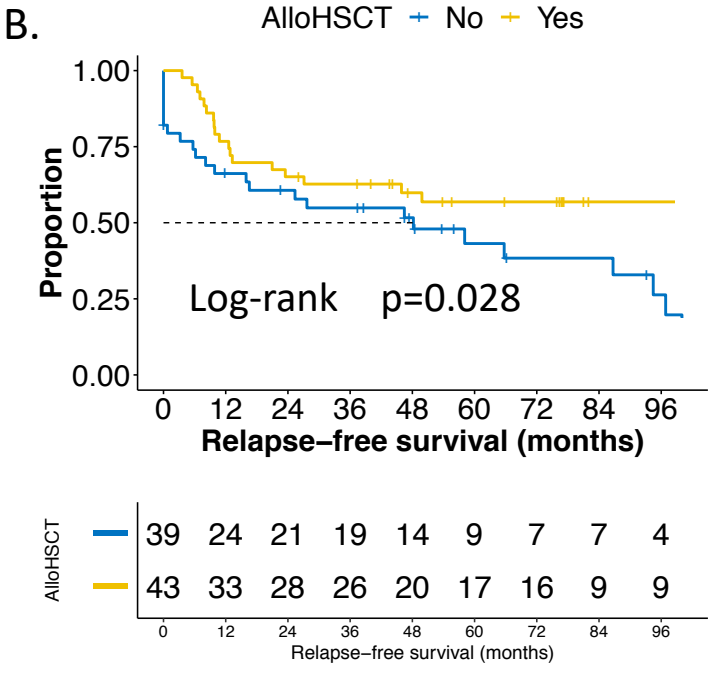
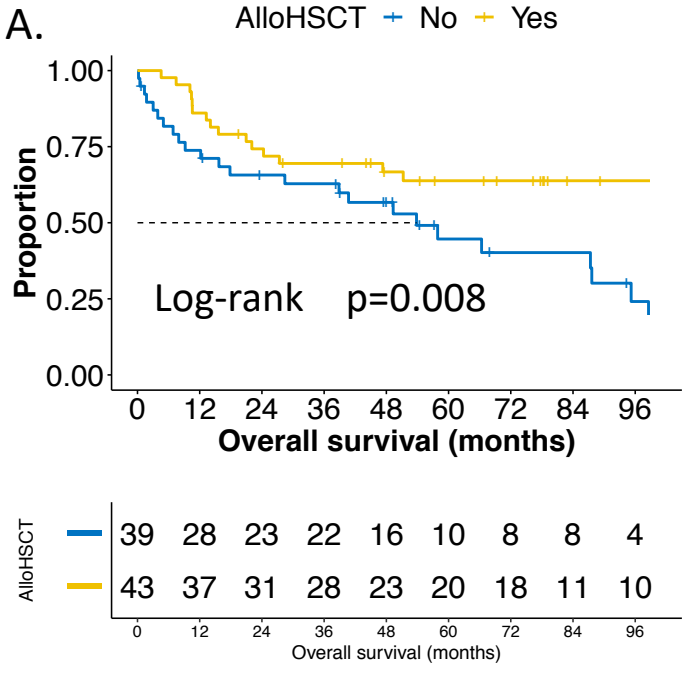
Supplementary Figure 1.



Stem cell transplantation is associated with improved survival in imatinib-treated but not in dasatinib-treated patients.

A) Overall survival and B) relapse-free survival of allotransplanted and non-allotransplanted patients who received imatinib-based treatments in the first-line. Events after 100 months are not shown. C) Overall survival and D) relapse-free survival of allotransplanted and non-allotransplanted patients who received dasatinib-based treatments in the first-line. Events after 80 months are not shown. Kaplan-Meier estimate, log rank test.

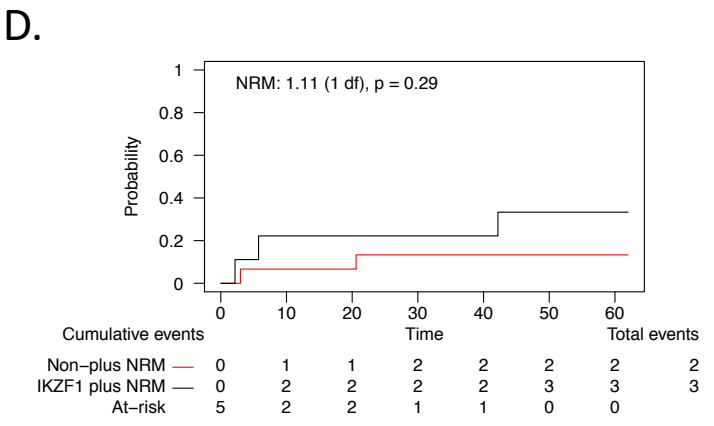
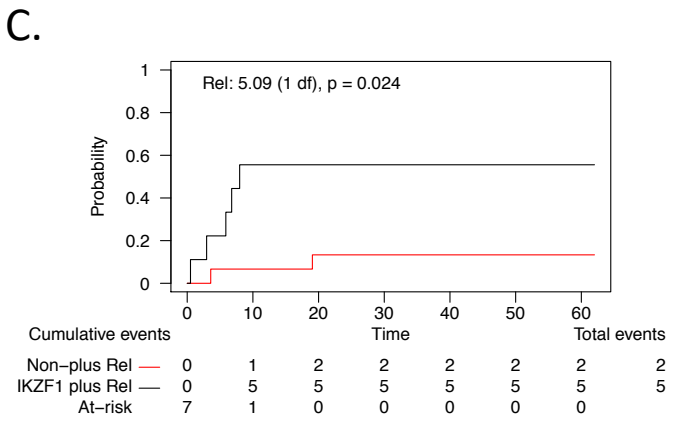
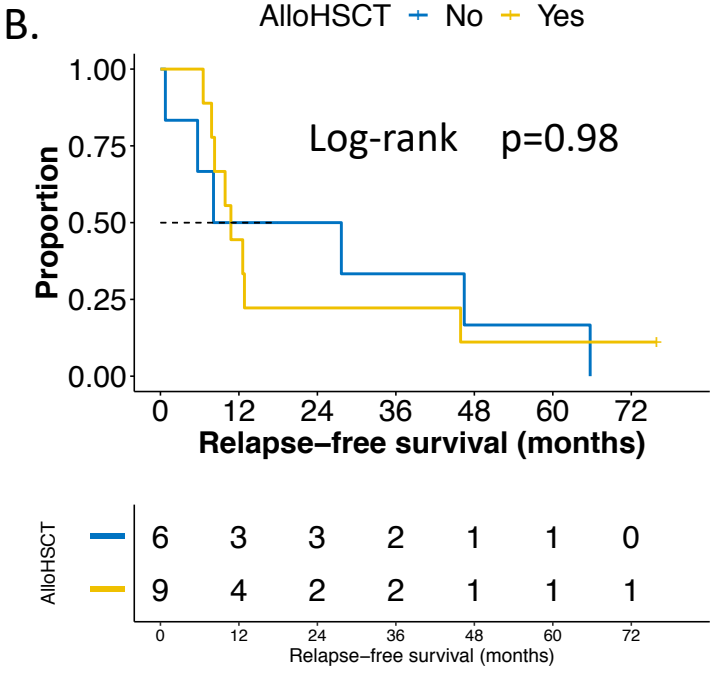
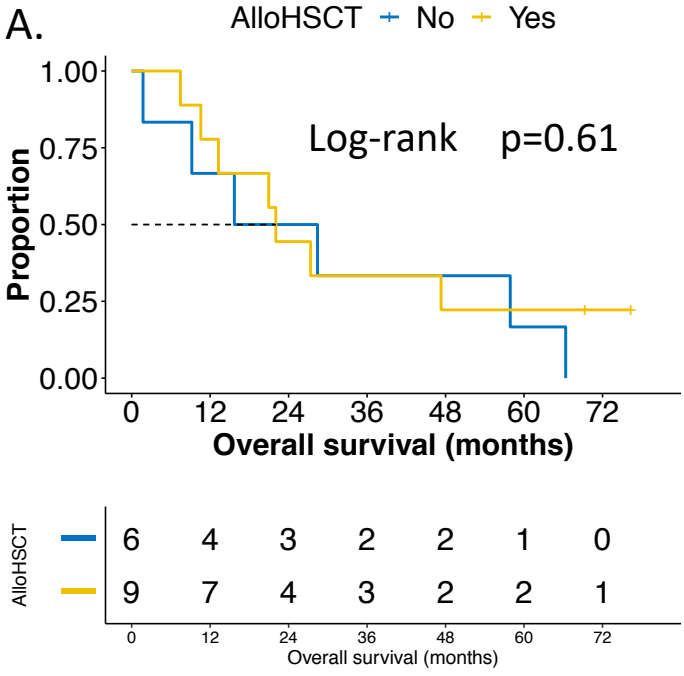
Supplementary Figure 2.



In under 65-year-old tyrosine kinase inhibitor-treated patients, stem cell transplantation is not associated with improved survival.

A) Overall survival and B) relapse-free survival of allotransplanted and non-allotransplanted patients who received tyrosine kinase inhibitor-based treatments in the first-line. C) Overall survival and B) relapse-free survival of allotransplanted and non-allotransplanted patients who received tyrosine kinase inhibitor-based treatments in the first-line when over 65-year-old patients were excluded from the analysis. Events after 100 months are not shown. Kaplan-Meier estimate, log rank test.

Supplementary Figure 3.



Relapses are frequent in *IKZF1* plus patients after stem cell transplantation. The effect of allogeneic hematopoietic stem cell transplantation (alloHSCT) on the survival of *IKZF1* plus (*IKZF1* deletion with *CDKN2A/B* and/or *PAX5* deletion) patients. A) Overall survival and B) relapse-free survival. Kaplan-Meier estimate, log rank test. C) Cumulative incidence of relapse after alloHSCT of *IKZF1* plus and non-plus patients. Non-relapse mortality was treated as a competing event. D) Cumulative incidence of non-relapse mortality after alloHSCT of *IKZF1* plus and non-plus patients. Relapse was treated as a competing event. Gray's test.