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## Present Title & Affiliation

### Primary Appointment

Associate Professor, Department of Leukemia, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX

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## Education & Training

### Degree-Granting Education

1984 Assam Medical College, Dibrugarh, Assam, India, MBBS, Medicine  
1979 Cotton College, Guwahati University, Assam, Assam, India, BS, Biology

### Postgraduate Training

7/2004-3/2005 Clinical Fellowship, Leukemia, The University of Texas MD Anderson Cancer Center, Department of Leukemia, Houston, TX, Dr. Jorge Cortes  
3/2001-6/2004 Clinical Fellowship, Hematology-Oncology, The University of Texas Health Science Center Houston and The University of Texas MD Anderson Cancer Center, Houston, TX, Dr. K. K. Wu  
7/1993-6/1996 Clinical Residency, Internal Medicine, The Brooklyn Hospital Center, Brooklyn, NY, Dr. E. Lazar  
7/1987-6/1990 Clinical Residency, Pathology, Post-Graduate Institute of Medical Education and Research, Chandigarh, India, Dr. B.N. Datta

9/1985-2/1987 House Officer, Internal Medicine, RML Hospital and GB Pant Hospital, New Delhi, India, Dr. P. Nigam  
1/1985-8/1985 Clinical Internship, Medicine, Assam Medical College, Dibrugarh, Assam, India

## Board Certifications

2005 American Board of Internal Medicine--Medical Oncology  
2004 American Board of Internal Medicine-Hematology  
1996 American Board of Internal Medicine  
1990 National Academy of Medical Sciences (India)-Patho

## Experience/Service

### Institutional Committee Activities

Member, Institutional Review Board 5, 9/2013-present

## Selected Publications

### Peer-Reviewed Original Research Articles

1. Tamamyian G, Kadia T, Ravandi F, **Borthakur G**, Cortes J, Jabbour E, Daver N, Ohanian M, Kantarjian H, Konopleva M. Frontline treatment of acute myeloid leukemia in adults. *Crit Rev Oncol Hematol* 110:20-34, 2/2017. e-Pub 12/2016. PMID: 28109402.
2. Piya S, Andreeff M, **Borthakur G**. Targeting autophagy to overcome chemoresistance in Acute Myelogenous leukemia. *Autophagy* 13(1):0, 1/2017. e-Pub 10/2016. PMID: PMC5240828.
3. [Piya S, Kornblau SM, Ruvolo VR, Mu H, Ruvolo PP, McQueen T, Davis RE, Hail N, Kantarjian H, Andreeff M, Borthakur G](#). Atg7 suppression enhances chemotherapeutic agent sensitivity and overcomes stroma-mediated chemoresistance in acute myeloid leukemia. *Blood* 128(9):1260-9, 9/2016. e-Pub 6/2016. PMID: 27268264.
4. [Borthakur G, Popplewell L, Boyiadzis M, Foran J, Platzbecker U, Vey N, Walter RB, Olin R, Raza A, Giagounidis A, Al-Kali A, Jabbour E, Kadia T, Garcia-Manero G, Bauman JW, Wu Y, Liu Y, Schramek D, Cox DS, Wissel P, Kantarjian H](#). Activity of the oral mitogen-activated protein kinase kinase inhibitor trametinib in RAS-mutant relapsed or refractory myeloid malignancies. *Cancer* 122(12):1871-9, 6/2016. e-Pub 3/2016. PMID: 26990290.
5. [Zhang W, Borthakur G, Gao C, Chen Y, Mu H, Ruvolo VR, Nomoto K, Zhao N, Konopleva M, Andreeff M](#). The dual MEK/FLT3 inhibitor E6201 exerts cytotoxic activity against acute myeloid leukemia cells harboring resistance-conferring FLT3 mutations. *Cancer Res*. e-Pub 1/2016. PMID: 26822154.
6. [Owusu-Agyemang P, Borthakur G, Rebello E, Arunkumar R, Wang SA, Rytting M, Jorgensen JL, Hernandez M, Ruiz JR, Cata JP](#). The Association Between Opioid

- Administration and Response to Therapy in Patients with Acute Lymphoblastic Leukemia. *Leuk Lymphoma* 56(6):1-9, 6/2015. e-Pub 1/2015. PMID: 25363399.
7. [Borthakur G, Dombret H, Schafhausen P, Brummendorf TH, Boissel N, Jabbour E, Mariani M, Capolongo L, Carpinelli P, Davite C, Kantarjian H, Cortes JE](#). A phase I study of Danusertib (PHA-739358) in adult patients with accelerated or blastic phase chronic myeloid leukemia and philadelphia chromosome-positive acute lymphoblastic leukemia resistant or intolerant to imatinib and/or other second generation c-ABL therapy. *Haematologica*. e-Pub 4/2015. PMID: 25887498.
  8. [Borthakur G, Duvvuri S, Ruvolo V, Tripathi DN, Piya S, Burks J, Jacamo R, Kojima K, Ruvolo P, Fueyo-Margareto J, Konopleva M, Andreeff M](#). MDM2 Inhibitor, Nutlin 3a, Induces p53 Dependent Autophagy in Acute Leukemia by AMP Kinase Activation. *PLoS One* 10(10):e0139254, 2015. e-Pub 10/2015. PMCID: PMC4595506.
  9. [Badar T, Cortes J, Borthakur G, O'Brien S, Wierda W, Garcia-Manero G, Ferrajoli A, Kadia T, Poku R, Kantarjian H, Mattiuzzi G](#). Phase II, Open Label, Randomized Comparative Trial of Ondansetron Alone versus the Combination of Ondansetron and Aprepitant for the Prevention of Nausea and Vomiting in Patients with Hematologic Malignancies Receiving Regimens Containing High-Dose Cytarabine. *Biomed Res Int* 2015:497597, 2015. e-Pub 1/2015. PMCID: PMC4310492.
  10. [Borthakur G, Cortes JE, Estey EE, Jabbour E, Faderl S, O'Brien S, Garcia-Manero G, Kadia TM, Wang X, Patel K, Luthra R, Koller C, Brandt M, Ravandi F, Kantarjian H](#). Gemtuzumab Ozogamicin with Fludarabine, Cytarabine and Granulocyte Colony Stimulating Factor (FLAG-GO) As Front-line Regimen in Patients with Core Binding Factor Acute Myelogenous Leukemia. *Am J Hematol* 89(10):964-8, 10/2014. e-Pub 7/2014. NIHMSID: NIHMS637506.
  11. [Shah DR, Daver N, Borthakur G, Hirsch-Ginsberg C, Oo TH](#). Pernicious Anemia With Spuriously Normal Vitamin B12 Level Might Be Misdiagnosed As Myelodysplastic Syndrome. *Clin Lymphoma Myeloma Leuk* 14(4):e141-3, 8/2014. e-Pub 2/2014. PMID: 24630920.
  12. [Arellano ML, Borthakur G, Berger M, Luer J, Raza A](#). A Phase II, Multicenter, Open-Label Study of Obatoclox Mesylate in Patients With Previously Untreated Myelodysplastic Syndromes With Anemia or Thrombocytopenia. *Clin Lymphoma Myeloma Leuk*. e-Pub 6/2014. PMID: 25052051.
  13. [Agrawal V, Woo JH, Borthakur G, Kantarjian H, Frankel AE](#). Red Blood Cell-Encapsulated L-Asparaginase: Potential Therapy of Patients with Asparagine Synthetase Deficient Acute Myeloid Leukemia. *Protein Pept Lett* 20(4):392-402, 4/2013. e-Pub 9/2012. PMID: 23016580.
  14. [Jin L, Tabe Y, Lu H, Borthakur G, Miida T, Kantarjian H, Andreeff M, Konopleva M](#). Mechanisms of apoptosis induction by simultaneous inhibition of PI3K and FLT3-ITD in AML cells in the hypoxic bone marrow microenvironment. *Cancer Lett* 329(1):45-58, 2/2013. e-Pub 10/2012. PMCID: PMC3572533.
  15. [Ohanian M, Borthakur G, Quintas-Cardama A, Mathisen M, Cortés JE, Estrov Z, Pemmaraju N](#). Ocular Granulocytic Sarcoma: A Case Report and Literature Review of Ocular Extramedullary Acute Myeloid Leukemia. *Clin Lymphoma Myeloma Leuk* 13(1):93-6, 2/2013. e-Pub 9/2012. PMCID: PMC4151170.
  16. [Borthakur G, Rosenblum MG, Talpaz M, Daver N, Ravandi F, Faderl S, Freireich EJ, Kadia T, Garcia-Manero G, Kantarjian H, Cortes JE](#). Phase I Study of Anti-CD33 Immunotoxin HUM-195/rGEL in Patients with Advanced Myeloid Malignancies.

Haematologica 98(2):217-21, 2/2013. e-Pub 8/2012. PMCID: PMC3561428.

17. [Kadia TM, Borthakur G, Garcia-Manero G, Faderl S, Jabbour E, Estrov Z, York S, Huang X, Pierce S, Brandt M, Koller C, Kantarjian HM, Ravandi F](#). Final results of the phase II study of rabbit anti-thymocyte globulin, cyclosporin, methylprednisone, and granulocyte colony-stimulating factor in patients with aplastic anaemia and myelodysplastic syndrome. *Br J Haematol* 157(3):312-20, 5/2012. e-Pub 2/2012. PMCID: PMC3924750.
18. [Eghtedar A, Borthakur G, Ravandi F, Jabbour E, Cortes J, Pierce S, Kantarjian H, Garcia-Manero G](#). Characteristics of translocation (16;16)(p13;q22) acute myeloid leukemia. *Am J Hematol* 87(3):317-8, 3/2012. e-Pub 1/2012. PMCID: PMC4221258.
19. [Borthakur G, Kantarjian H, Ravandi F, Zhang W, Konopleva M, Wright JJ, Faderl S, Verstovsek S, Mathews S, Andreeff M, Cortes JE](#). Phase 1 Study of sorafenib in patients with refractory or relapsed acute leukemias. *Haematologica* 96(1):62-8, 1/2011. e-Pub 10/2010. PMCID: PMC3012766.
20. [Samudio IJ, Duvvuri S, Clise-Dwyer K, Watt JC, Mak D, Kantarjian H, Yang D, Ruvolo V, Borthakur G](#). Activation of p53 signaling by MI-63 induces apoptosis in acute myeloid leukemia cells. *Leuk Lymphoma* 51(5):911-9, 5/2010. PMCID: PMC3012766.
21. [Borthakur G, Huang X, Kantarjian H, Faderl S, Ravandi F, Ferrajoli A, Torma R, Morris G, Berry D, Issa JP](#). Report of a phase 1/2 study of a combination of azacitidine and cytarabine in acute myelogenous leukemia and high-risk myelodysplastic syndromes. *Leuk Lymphoma* 51(1):73-8, 1/2010. PMCID: PMC2876330.
22. [Bryan J, Borthakur G](#). Role of rituximab in first-line treatment of chronic lymphocytic leukemia. *Ther Clin Risk Manag* 7:1-11, 2010. e-Pub 12/2010. PMCID: PMC3039008.

### Other Articles

1. Jain N, Hubbard J, Vega F, Vidal G, Garcia-Manero G, **Borthakur G**. Spontaneous remission of acute myeloid leukemia: report of three patients and review of the literature. *Clinical Leukemia* 2(1):64-67, 2/2008.

### Abstracts

1. **Borthakur G**, Ishizawa J, DiNardo CD, Kadia TM, Weise K, Allen JE, Oster W, Cortes JE, Kantarjian HM, Andreeff M. A Phase I/II Clinical Trial of the First-in-Class GPCR Antagonist ONC201 in Relapsed/Refractory Acute Leukemias. *Blood* 128(22) (#3997), 12/2016.
2. Piya S, Bhattacharya S, Mu H, Lorenzi PL, McQueen T, Davis ER, Ruvolo V, Baran N, Qian Y, Crews C, Kantarjian HM, Andreeff M, **Borthakur G**. BRD4 Proteolysis Targeting Chimera (PROTAC) ARV-825, Causes Sustained Degradation of BRD4 and Modulation of Chemokine Receptors, Cell Adhesion and Metabolic Targets in Leukemia Resulting in Profound Anti-Leukemic Effects. *Blood* 128(22) (#748), 12/2016.
3. **Borthakur G**, Tallman MS, Ofran Y, Foran JM, Uy GL, DiPersio JF, Nagler A, Rowe JM, Showel MM, Altman J, Al-Rawi A, Wang R-Y, Peled A, Abraham M, Pereg Y, Vainstein A, Oberkovitz G, Lustig T, Aharon A, Bueso-Ramos CE, Cortes JE, Andreeff M. The Selective Anti Leukemic Effect of BL-8040, a Peptidic CXCR4 Antagonist, Is Mediated By Induction of Leukemic Blast Mobilization, Differentiation and Apoptosis: Results of Correlative Studies from a Ph2a Trial in

- Acute Myeloid Leukemia. *Blood* 128(22) (#2745), 12/2016.
4. **Borthakur G**, Tallman M, Ofran Y, Foran J, Uy G, DiPersio J, Nagler A, Rowe J, Showel M, Altman J, Peled A, Abraham M, Pereg Y, Vainstein A, Oberkovitz G, Lustig T, Aharon A, Bueso-Ramos C, Cortes J, Andreeff M. Final Phase IIa Study Results Evaluating the CXCR4 Antagonist BL-8040 in Combination with Cytarabine (Ara-C) for the Treatment of Relapsed/Refractory AML Patients. *Clinical Lymphoma, Myeloma and Leukemia* 16(Supplement 2):S28 (#AML-076), 9/2016.
  5. Ohanian M, Ravandi F, **Borthakur G**, Garcia-Manero G, Andreeff M, Jabbour E, Alvarado Y, Konopleva M, Lim M, Pierce S, O'Brien SM, Ashizawa AT, Verstovsek S, Wierda WG, Cortes JE. Phase I study of BP1001 (Liposomal Grb2 Antisense) in patients with hematologic malignancies. *J Clin Oncol* 34(suppl) (#7010), 6/2016.
  6. **Borthakur G**, Foran JM, Wang ES, Rakkar A, Minderman H, Burns J, Andreeff M, Tibes R,. A Phase 1b Study of Birinapant in Combination with 5-Azacitadine in Patients with Myelodysplastic Syndrome Who Are Naïve, Refractory or Have Relapsed to 5-Azacitadine. *Blood* 126(23) (#93), 12/2015.
  7. Tamamyian G, **Borthakur G**, Cortes JE, Ravandi F, Jabbour E, Daver N, Pemmaraju N, Ohanian, Kolomansky A, Todisco G, Shi C, Pierce S, Peng SA, Konopleva M, Kantarjian HM, Kadia T. Prognostic Score for Adults with Acute Myeloid Leukemia in First Complete Remission. *Blood* 126(23) (#3850), 12/2015.
  8. **Borthakur G**, Ofran Y, Nagler A, Rowe JM, Foran JM, Uy GL, DiPersio JF, Altman JK, Frankfurt O, Tallman MS, Peled A, Pereg Y, Vainstein A, Aharon A, Al Rawi A, McQueen T, Pemmaraju N, Bueso-Ramos C, Cortes JE, Andreeff M. The Peptidic CXCR4 Antagonist, BL-8040, Significantly Reduces Bone Marrow Immature Leukemia Progenitors By Inducing Differentiation, Apoptosis and Mobilization: Results of the Dose Escalation Clinical Trial in Acute Myeloid Leukemia. *Blood* 126(23) (#2546), 12/2015.
  9. Tamamyian G, Döhner K, **Borthakur G**, Paschka P, Ravandi F, Gaidzik VI, Cortes J, Döhner H, Garcia-Manero G, Thol F, Jabbour E, Heuser M, Daver N, Pierce S, Ohanian M, Kolomansky A, Todisco G, Peng SA, Konopleva M, Kantarjian H, Ganser A, Kadia T, Schlenk RF. Updated definition of cure in adult patients with non-APL acute myeloid leukemia. *Clinical Lymphoma, Myeloma and Leukemia* 15(Supplement 2):S21 (#227), 9/2015.
  10. Kadia T, **Borthakur G**, Ferrajoli A, Daver N, Jabbour E, Pemmaraju N, Verstovsek S, Burger JA, Wierda WG, Konopleva M, DiNardo CD, Jain N, Brandt M, Tuttle C, Wang X, Ravandi F, Garcia-Manero G, Cortes JE, Kantarjian HM. Phase II Study of Cladribine and Low-Dose Cytarabine (AraC) Alternating with Decitabine in Older Patients with Acute Myeloid Leukemia (AML). *Blood* 124(21):3671, 11/2014.
  11. **Borthakur G**, Kantarjian H, O'Brien S, Garcia-Manero G, Jabbour E, Daver N, Kadia TM, Gborogen R, Konopleva M, Andreeff M, Ravandi F, Cortes J. The combination of quizartinib with azacitidine or low dose cytarabine is highly active in patients with FLT3-ITD mutated myeloid leukemias: interim report of a phase I/II trial. *Blood* 124(21):388, 11/2014.

## Book Chapters

1. **Borthakur G, Estey EE**. Therapy of acute myelogenous leukemia in adults. In: *Cancer Treat Res.* 145, 257-71, 2010. ISBN: 20306256.
2. Jabbour E, **Borthakur G**, Bueso-Ramos C, Kantarjian H, Faderl S. Acute Lymphoblastic Leukemia. In: *MD Anderson Manual of Medical Oncology*. Ed(s) HM

Kantarjian, RA Wolff, CA Koller. McGraw-Hill Medical Publishing Division: United States, 3-17, 2006.

3. **Borthakur G**, Bueso-Ramos C, O'Brien S. Chronic Lymphocytic Leukemia and Associated Disorders. In: MD Anderson Manual of Medical Oncology. Ed(s) HM Kantarjian, RA Wolff, CA Koller. McGraw-Hill Medical Publishing Division: United States, 39-55, 2006.