

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Morschhauser F, Fowler NH, Feugier P, et al. Rituximab plus lenalidomide in advanced untreated follicular lymphoma. *N Engl J Med* 2018;379:934-47. DOI: 10.1056/NEJMoa1805104

Supplementary Appendix

Supplement to: Morschhauser F, Fowler NH et al. Rituximab plus either lenalidomide or chemotherapy in follicular lymphoma

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Supplementary Table S1. List of RELEVANCE Study Investigators.

Principal Investigator	Site Location
Nizar Abdel-Samad	Moncton Hospital Division of Oncology-Hematology 135, MacBeath Avenue E1C 678 MONCTON, NB CANADA
May Abdo- Matkiwsky	Sparta Cancer Center, 89 Sparta Avenue, Suite 130, Sparta, NJ 07871
Julie Abraham	CHU de Limoges - Hôpital Dupuytren Département Hématologie Clinique et Thérapie Cellulaire 2 avenue Martin Luther King 87042 LIMOGES Cedex FRANCE
Pau Abrisqueta	Hospital Universitario Vall d'Hebron Hematology Service Passeig Vall d'Hebron, 119-129 08035 BARCELONA SPAIN
Kiyoshi Ando	Tokai University Hospital. Department of Hematology. 143 Shimokasuya, Isehara, 259-1193 Kanagawa
Marc Andre	CHU Mont-Godinne Avenue du Docteur Gaston Therasse, 1 5530 YVOIR BELGIUM
Bruno Anglaret	Hôpital de Valence Service Hématologie 179 boulevard Maréchal Juin 26953 VALENCE Cedex 9 FRANCE
Jeffrey A. Barnes	Harvard Medical School- Mass General Hospital, Hematology/Oncology Unit, 55 Fruit Street. Boston, MA 02114
Nancy Bartlett	Washington University School of Medicine Siteman Cancer Center, 660 South Euclid Avenue, Campus Box 8056, St. Louis, MO 63110
Omar Benbrahim	CHR d'Orléans Service d'Onco-Hématologie 14 avenue de l'Hôpital 45100 ORLEANS FRANCE
Philip J. Bierman	Nebraska Medical Center - Clarkson and University Hospitals, 689200 Nebraska Medical Center. Omaha, NE 68198
Christophe Bonnet	CHU de Liège Sart Tilman Division of Hematology, Campus Universitaire Sart-Tilman B35, 4000 LIEGE BELGIUM
Kamal Bouabdallah	Hôpital Haut Lévêque - Centre François Magendie Service d'Hématologie Clinique et Thérapie Cellulaire Avenue de Magellan 33604 PESSAC Cedex FRANCE
Reda Bouabdallah	Institut Paoli Calmettes 232 Boulevard Sainte-Marguerite 13273 MARSEILLE FRANCE
Philippe Brault	Institut Curie Service d'Oncologie Médicale 26 rue d'Ulm 75005 PARIS FRANCE
Pauline Brice	Hôpital Saint Louis Service d'Onco-Hématologie 1 avenue Claude Vellefaux 75475 PARIS Cedex 10 FRANCE

Principal Investigator	Site Location
Dominique Bron	Institut Jules Bordet 121 boulevard de Waterloo 1000 BRUXELLES BELGIUM
Burke J. Brooks Jr	Ochsner Clinic – Baton Rouge, 9001 Summa Avenue, Baton Rouge, LA 70809
Peter Byeff	Cancer Center of Central Connecticut. 55 Meriden Avenue, Suite 1A. Southington, CT 06489
Guillaume Cartron	CHRU de Montpellier Département d'Hématologie Clinique 80 avenue Augustin Fliche 34295 MONTPELLIER Cedex 5 FRANCE
Maria Casanova	Hospital Costa del Sol Autovia A-7, Km 187 29600 MARBELLA SPAIN
Olivier Casasnovas	CHU Le Bocage Service d'Hématologie Clinique 14 rue Gaffarel 21000 DIJON FRANCE
Matthew Cheung	Sunnybrook Health Sciences Centre Odette Cancer Center 2075 Bayview Avenue MN4 3M5 TORONTO, ONTARIO CANADA
Yuvraj Choudhary	Virginia Cancer Institute, 6605 West Broad Street. Richmond, Suite B, Richmond, Virginia 23230
Terrance Comeau	Atlantic Health Sciences Corp - Saint John Regional Hospital Department of Oncology 400 University Ave E2L 4L2 SAINT JOHN, NEW BRUNSWICK CANADA
Barry Cooper	Baylor Charles A. Sammons Cancer Center, 3410 Worth Street, Suite 400, Dallas, TX 75246
Stephen Couban	Nova Scotia Cancer Centre QEII Health Sciences Center 1276 South Park Street B3H 2Y9 HALIFAX, NS CANADA
Maria Christina Cox	Sant'Andrea Hospital Ematologia Via di Grottarossa 1034 00189 ROMA ITALY
Michael Crump	UHN-Princess Margaret Hospital Division of Medical Oncology & Hematology 610 University Avenue M5G 2M9 TORONTO, ONTARIO CANADA
Nicolas Daguindau	Centre Hospitalier Annecy Genevois Service d'Hématologie 1 avenue de l'Hôpital - BP 90074 Epagny Metz-Tessy 74374 PRINGY Cedex FRANCE
Bénédicte Deau Fischer	Hôpital Cochin Service d'Hématologie 27 rue Faubourg St Jacques 75014 PARIS FRANCE
Eric Deconinck	CHU de Besançon - Hôpital Jean Minjot Service Hématologie Boulevard Fleming 25030 BESANCON Cedex FRANCE
Dries Deeren	AZ Delta Wilgenstraat, 2 8800 ROESELARE BELGIUM

Principal Investigator	Site Location
Fatima de la Cruz Vicente	Hospital Virgen del Rocio Servicio de Hematología y Hemoterapia Avda. Manuel Siurot, s/n 41013 SEVILLA SPAIN
Richard Delarue	Hôpital Necker Service d'Hématologie Adulte 149 rue de Sèvres 75015 PARIS FRANCE
Raquel Del Campo	Hospital Son Llatzer Servicio de Hematología Ctra Manacor, Km. 4 07198 PALMA DE MALLORCA SPAIN
Alain Delmer	CHU de Reims - Hôpital Robert Debré Département d'Hématologie Clinique Rue du Général Koenig 51092 REIMS Cedex FRANCE
Vincent Delwail	CHU de Poitiers Centre d'Investigation Clinique - CIC INSERM 1402 Entrée 5 - Cour Est Jean Bernard 86021 POITIERS Cedex FRANCE
Peter Raymond Duggan	Tom Baker Cancer Centre Clinical Research Unit, TBCC 1331-29 Street NW T2N4N2 CALGARY, AB CANADA
D Jean-Claude r Mr Eisenmann	CH de Mulhouse - Hôpital Emile Muller Département d'Hématologie 20 rue du Dr Laënnec 68100 MULHOUSE FRANCE
Abderrazak El Yamani	CH de Blois Service Hématologie Clinique Mail Pierre Charlot 41000 BLOIS FRANCE
Herbert A. Eradat	David Geffen School of Medicine at UCLA, 10945 Le Conte Avenue, Suite 2333, Los Angeles, CA 90095-7059
Michel Fabbro	Institut Régional du Cancer de Montpellier - Val d'Aurelle 208 rue des Apothicaires Parc Euromédecine 34298 MONTPELLIER Cedex 5 FRANCE
Charles Farber	Hematology-Oncology Associates of Northern NJ; P.A. Carol G. Simon Cancer Center. 100 Madison Avenue, 2 nd Floor, Morristown, NJ 07962
David C. Fisher	Dana Farber Cancer Institute, 450 Brookline Avenue, Boston, MA 02215
Roger A. Fleischman	University of Kentucky, 800 Rose Street, CC453, Lexington, Kentucky 40536
Ian W. Flinn	Sarah Cannon Research Institute, 250 25 th Avenue North, Suite 110, Nashville, TN 37203
Nathan H. Fowler	MD Anderson Cancer Center, 1515 Holcombe Blvd, Suite 429, Houston, TX 77030-4009
Pierre Feugier	CHU Brabois Service d'Hématologie et Médecine interne Rue du Morvan 54500 VANDOEUVRE LES NANCY FRANCE
Emmanuel Fleck	Groupe Hospitalier La Rochelle-Ré-Aunis Département Hématologie - Oncologie

Principal Investigator	Site Location
	Rue du Docteur Schweitzer 17019 LA ROCHELLE Cedex FRANCE
Luc-Matthieu Fornecker	CHU de Strasbourg - Hôpital de Hautepierre Département d'Hématologie et d'Oncologie 1 Avenue Molière BP 428 67098 STRASBOURG Cedex FRANCE
Charles Foussard	CHU d'Angers Service des Maladies du Sang 4 rue Larrey 49933 ANGERS Cedex 09 FRANCE
Christophe Fruchart	Institut d'Hématologie de Basse Normandie Bâtiment FEH - 4ème étage Avenue Côte de Nacre 14000 CAEN France Centre Francois Baclesse Service Hématologie 3 avenue du Général Harris 14076 CAEN Cedex 5 FRANCE
Jean Gabarre	Hôpital de la Pitié Salpêtrière Service d'Hématologie Clinique 47-83 boulevard de l'Hôpital 75013 PARIS FRANCE
Yousuf A. Gaffar	St. Joseph Medical Center, The Cancer Institute. 7501 Osler Drive, Suite 104. Towson, MD 21204
David Gallardo	Institut Català d'Oncologia de Girona (ICO Girona) Avda. De França, s/n 17007 GIRONA SPAIN
Hassan Ghazal	Kentucky Cancer Clinic. 200 Medical Center Drive Suite 3-0. Hazard, Kentucky 41701
Aristoteles Giagounidis	Marien Hospital Dusseldorf Klinik für Onkologie/Hämatologie Rochusstr. 2 40479 DÜSSELDORF GERMANY
Karamjit Gill	Fraser Valley Cancer Centre Department of Medical Oncology BC Cancer Agency 13750 - 96th Avenue, Surrey, B.C. V3V 1Z2 VANCOUVER CANADA
Sylvie Glaisner	Centre René Huguenin Service d'Hématologie 35 rue Dailly 92210 SAINT-CLOUD FRANCE
Maria Gomes da Silva	Instituto Português de Lisboa Francisco Gentil, IPOLFG-EPE Departamento Hematologia Rua Professor Lima Basto 1099-023 LISBOA PORTUGAL
Hugo Gonzalez	CH René Dubos Service d'Hématologie Clinique et Thérapie Cellulaire 6 avenue de l'Ile de France 95300 PONTOISE FRANCE
Richard H. Greenberg	The Center For Cancer And Hematologic Disease, 1930 Route 70 East, Suite V-107, Camden, NJ 07739

Principal Investigator	Site Location
Hadi Goubran Messiha	Saskatoon Cancer Centre 20 campus drive Saskatoon, Saskatchewan S7N 4H4 SASKATOON, SK CANADA
Andre Goy	The Cancer Center at Hackensack University Medical Center, 92 Second Street, John Theurer Cancer Center, Hackensack, NJ 07601
Rémy Gressin	CHU de Grenoble - Hôpital Michallon Service Hématologie Clinique BP 217 38043 GRENOBLE Cedex 09 FRANCE
Emmanuel Gyan	CHU de Tours - Hôpital Bretonneau Service Hématologie Thérapie Cellulaire 2 boulevard Tonnellé 37044 TOURS Cedex 1 FRANCE
Corinne Haioun	Hôpital Henri Mondor Unité Hémopathies Lymphoïdes 51 avenue de Lattre de Tassigny 94010 CRETEIL FRANCE
Lowell L. Hart	Florida Cancer Specialists, 4331 Veronica S. Shoemaker Blvd., Unit #15. Fort Myers, FL 33916 / Florida Cancer Specialists, 4415 Metro Parkway, Suite 310. Fort Myers, FL 33916 / Florida Cancer Specialists, 3840 Broadway. Fort Myers, FL33901
Kiyohiko Hatake	The Cancer Institute Hospital of Japanese Foundation for Cancer Research, 3-8-31 Ariake, Koto-ku, 135-8550 Tokyo
Wolfgang Hiddemann	Klinikum der Ludwig-Maximilians-Universitaet- Muenchen Department of Medicine III Marchiononostrasse 15 81377 MÜNCHEN GERMANY
Beata Hodossy	CHR de la Citadelle Hematologie Clinique Boulevard du 12ème de Ligne, 1 4000 LIEGE BELGIUM
Ian Horkheimer	Meridian Health Services, 180 White Road, Suite 101, Little Silver, NJ 07739,
Robert J. Hoyer	Memorial Hospital, 525 N. Foote Avenue, Colorado Springs, CO 80909
Kai Huebel	Universitätsklinikum Köln Klinik I für Innere Medizin Kerpener Strasse 62 50937 KÖLN GERMANY
Takayuki Ishikawa	Kobe City Medical Center General Hospital. 2-1-1 Minatojima-minamimachi, Chuo-ku, Kobe-city, 650-0047 Hyogo
Koji Izutsu	National Cancer Center Hospital, 5-1-1 Tsukiji, Chuo-ku, 104-0045 Tokyo
Henry Jardel	Centre Hospitalier Bretagne-Atlantique Service Hématologie - Médecine Interne 20 boulevard Maurice Guillaudot 56017 VANNES FRANCE
Haresh S. Jhangiani	Compassionate Cancer Care Medical Group, Inc. 18111 Brookhurst St. Suite 6100 Fountain Valley, CA 92708

Principal Investigator	Site Location
Nathalie Johnson	The Jewish General Hospital Division of Hematology 3755 Cote Ste Catherine QUEBEC H3T 1E2 MONTREAL, QUEBEC CANADA
Bertrand Joly	CHRU Sud Francilien Service Hématologie 116 Boulevard Jean Jaurès 91100 CORBEIL-ESSONNES FRANCE
Eric Jourdan	Centre Hospitalier Régional Universitaire - Institut de Cancérologie du Gard Hématologie Clinique Rue du Professeur Henri Pujol 30029 NIMES Cedex 9 FRANCE
Khalil Kargar Samani	CH de Wallonie Picarde Site IMC - Chaussée de Saint Amand, 80 7500 TOURNAI BELGIUM
Koji Kato	Kyushu University Hospital, 3-1-1, Maidashi, Higashi-ku, 812-8582 Fukuoka-shi
Toru Kiguchi	Chugoku Central Hospital. 148-13 Kamiwanari, Miyuki-cho, Fukuyama-shi, 720-0001 Hiroshima
Tsutomu Kobayashi	University Hospital, Kyoto Prefectural University of Medicine, 465 Kajii-cho, Hirokoji agaru, Kawaramachi-dori, Kamigyo-ku, 602-8566 Kyoto
Frédéric Kohser	Hôpitaux Civils de Colmar Service de Médecine B39 avenue de la Liberté 68024 COLMAR Cedex FRANCE
Michiaki Koike	Juntendo University Shizuoka Hospital. 1129 Nagaoka, Izunokuni-shi, 410-2295 Shizuoka
Tom Kouroukis C.	The Margaret and Charles Juravinski Centre Hematology- Oncology 699 Concession Street L8V 5C2 HAMILTON, ONTARIO CANADA
Nicole Laferriere	Thunder Bay Regional Health Science Centre Medical Oncologist Regional Cancer Care 980 Oliver Road P7B 6V4 THUNDER BAY, ONTARIO CANADA
Thierry Lamy de la Chapelle	CHU Pontchaillou Service d'Hématologie - BMT-HC (2ème étage) 2 rue Henri le Guilloux 35033 RENNES Cedex 09 FRANCE
Daniel A. Landau	UF Health Cancer Center at Orlando Health, 1400 South Orange Avenue, Orlando, FL 32806
Jean-François Larouche	Hôpital de l'Enfant-Jesus, CHU de Quebec 1401, 18è Rue Québec G1J 1Z4 QUEBEC, QUEBEC CANADA
William E. Lawler	St. Jude Heritage Medical Group, 2151 North. Harbor Blvd., Virginia K. Crosson Cancer Center, Suite 2200, Fullerton CA 92835

Principal Investigator	Site Location
Steven Le Gouill	CHU de Nantes - Hôtel Dieu Service d'Hématologie Clinique 1 place Alexis Ricordeau 44000 NANTES FRANCE
Bernard Lemieux	CHUM Hopital Notre-Dame 1560, rue Sherbrooke Est H2L 4M1 Quebec H2L 4M1 MONTREAL, QUEBEC CANADA
Denise A. Levitan	Advocate Illinois Masonic Medical Center, 836 West Wellington Avenue, Room 3614, Chicago, Illinois 60657
Edward N. Libby	Seattle Cancer Care Alliance, 825 Eastlake Ave East, Mail Stop, G6-800, Seattle, WA 98109
Luc Longree	Clinique Saint Joseph Rue de Hesbaye, 75 4000 LIEGE BELGIUM
Javier Lopez	Hospital Ramon y Cajal Hematology Service Ctra. Colmenar Viejo, KM. 9,100 28034 MADRID SPAIN
Armando Lopez Guillermo	Hospital Clinic de Barcelona Hematology Department C/ Villarroel, n°170 08036 BARCELONA SPAIN
Joseph Mace	Florida Cancer Specialists. 560 Jackson Street, Suite 220 St. Petersburg, FL 33705
Marie Maerevoet	Cliniques Universitaires de Bruxelles - Hôpital Erasme Division of Hematology Route de Lennik, 808 1070 BRUXELLES BELGIUM
Michel Maigre	CH de Chartres Hématologie - Oncologie Médicale BP 407 28018 CHARTRES Cedex FRANCE
Hervé Maisonneuve	CHD Vendée Service d'Onco-Hématologie Boulevard Stéphane Moreau 85925 LA ROCHE-SUR-YON Cedex 9 FRANCE
Zora Marjanovic	Hôpital Saint Antoine Service d'Hématologie Clinique et Thérapie Cellulaire 184 rue du Faubourg Saint Antoine 75012 PARIS FRANCE
Alejandro Martin Garcia-Sancho	Hospital Universitario Salamanca Servicio de Hematologia P° de San Vicente, 58-182 37007 SALAMANCA SPAIN
Jessica Michel	CHR Metz-Thionville - Hôpital Mercy Service Hématologie 1 allée du Château - CS 45001 57085 METZ Cedex 03 FRANCE
Franck Morschhauser	CHRU de Lille - Hôpital Claude Huriez Service des Maladies du Sang Rue Michel Polonovski 59037 LILLE Cedex FRANCE
Christiane Mounier	Institut de Cancerologie de la Loire Lucien Neuwirth Département d'Hématologie 108 bis avenue Albert Raimond 42271 SAINT-PRIEST-EN- JAREZ Cedex FRANCE

Principal Investigator	Site Location
Ana Muntanola	Hospital Universitario Mutua de Terrassa Hematology Service Plaza del Doctor Robert, 5 08221 TERRASSA SPAIN
Marie-Christine Ngirabacu	Hôpital de Jolimont Department of Hematology Rue Ferrer, 159 7100 HAINE-SAINT- PAUL BELGIUM
Emmanuelle Nicolas-Virelizier	Centre Léon Bérard Service Hématologie 28 rue Laennec 69373 LYON Cedex 08 FRANCE
Silvana Novelli	Hospital de la Santa Creu i Sant Pau Servicio de Hematologia C/ Sant Antoni M ^a Claret, 167 08025 BARCELONA SPAIN
Fritz Offner	Ghent University Hospital Department of Hematology De Pintelaan, 185 9000 GENT BELGIUM
Maria L. Palomba	Memorial Sloan Kettering Cancer Center, 1275 York Avenue, Chemo Pharmacy, C1165, NY 10065 New York
Luis Palomera	Hospital Clinico Lozano Blesa Servicio de Hematologia Avda. San Juan Bosco, 15 50009 ZARAGOZA SPAIN
Lalita H. Pandit	Lalita Pandit, MD Inc., 11160 Warner Avenue, Suite 417. Fountain Valley, CA 92708
Amit Panwalkar	Sanford Roger Maris Cancer Center. 820 North 4 th Street. Fargo, ND 58122
Gian Matteo Pica	CH Métropole Savoie Service Hématologie Place Lucien Biset BP 31125 73011 CHAMBERY Cedex FRANCE
Pascal Pierre	Cliniques du Sud Luxembourg - Hôpital Saint Joseph Onco-Hematologic Department Rue des Déportés, 137 6700 ARLON BELGIUM
Jean-Michel Pignon	CH de Dunkerque Service Hématologie 130 avenue L. Herbeaux 59385 DUNKERQUE Cedex 1 FRANCE
Antonello Pinto	Istituto Nazionale Tumori Fondazione G. Pascale Unità di Ematologia Oncologia e Trapianto di Cellule Staminali Via Mariano Semmola 49 80131 NAPOLI ITALY
Christoph Plöger	Mannheimer Onkologie Praxis Q 5, 14 - 22 68161 MANNHEIM GERMANY
Delphine Pranger	Grand Hôpital de Charleroi Oncology and Hematology Department Grande Rue, 3 6000 CHARLEROI BELGIUM
Donald P. Quick	Joe Arrington Cancer Research and Treatment Cancer. 4101 22 nd Place. Lubbock, TX 79410
Evangeline A. Reyes	Compassionate Cancer Care Medical Group, Inc. 260 E. Ontario Avenue, Suite 101. Corona, CA 92879
Vincent Ribrag	Gustave Roussy Cancer Campus Grand Paris 114 rue Edouard Vaillant 94805 VILLEJUIF Cedex FRANCE

Principal Investigator	Site Location
Valérie Robin	CHU Ambroise Paré Boulevard Kennedy, 2 7000 MONS BELGIUM
Daniela Robu	CHU de Lens Service d'Hématologie Clinique 99 route de la Bassée - SP 8 62307 LENS Cedex FRANCE
Maria José Rodriguez Salazar	Hospital Universitario de Canarias c/m Ofra s/n La Cuesta La Laguna 38320 SANTA CRUZ DE TENERIFE SPAIN
Peter J Rosen	Providence Saint Joseph Medical Center – Disney Family Cancer Center. 181 South Buena Vista Street; Burbank, CA 91505
Jonathan Rosenbluth	Somerset Hematology Oncology Associates, P.A. 30 Rehill Avenue, Suite 2500 Somerville, NJ 08876
Sophie Sadot-Lebouvier	Centre Catherine de Sienne Service Hématologie 2 rue Eric Tabarly 44202 NANTES Cedex 2 FRANCE
Gilles Salles	CH Lyon Sud Service Hématologie Clinique Pavillon Marcel Bérard 165 Chemin du Grand Revoyet 69495 PIERRE BENITE Cedex FRANCE
Randeep Sangha	Cross Cancer Institute 11560 University Avenue T6G 1Z2 EDMONTON, ALBERTA CANADA
Zdenka Segota	Holy Cross Hospital – Michael and Dianne Bienes Comprehensive Cancer Center. 4725 North Federal Highway. Fort Lauderdale, Florida 33308
Laurie Sehn	BCCA - Vancouver Centre 600 West 10th Avenue BRITISH COLUMBIA V5Z 4E6 VANCOUVER CANADA
Ilan Shapira	St. Luke's Roosevelt Hospital Center. 1000 10 th Ave. 11C02 New York, NY 10019
Mikhail Shtivelband	Ironwood Cancer and Research Centers, 685 South Dobson Road, Chandler Office, Chandler, AZ 85224
Marc Simon	CH de Valenciennes Service d'Hématologie Clinique Avenue Desandrouins 59322 VALENCIENNES Cedex FRANCE
Martin Soekler	Universitätsklinikum Tübingen Medizinische Klinik II Otfried-Müller-Str. 10 72076 TÜBINGEN GERMANY
Pierre Soubeyran	Institut Bergonié - Centre Régional de Lutte contre le Cancer Département Hématologie 229 cours de l'Argonne 33076 BORDEAUX Cedex FRANCE
John Taper	Nepean Hospital Nepean Cancer Care Center Nepean Hospital NSW 2751 PENRITH AUSTRALIA
Howard R. Tereblo	Providence Cancer Institute. 22301 Foster Winter Drive. Southfield, MI 48075
Maria José Terol	Hospital Clínico Universitario de Valencia Hematologia y Oncologia Medica Avda. Blasco Ibañez, 17 46010 VALENCIA SPAIN

Principal Investigator	Site Location
Hervé Tilly	Centre Henri Becquerel Département d'Hématologie Rue d'Amiens 76000 ROUEN FRANCE
Angelina S. The	University Cancer Institute. 2240 Woolbright Road, Suite 415 Boynton Beach, FL 33426
Kensei Tobinai	Department of Hematology, National Cancer Center Hospital, 5-1-1 Tsukiji, Chuo-ku, Tokyo, Japan
Yasunori Ueda	Kurashiki Central Hospital, 1-1-1 Miwa, Kurashiki, Kurashiki- shi- 7108602
Eric van den Neste	Université Catholique de Louvain Saint Luc Department of Hematology Avenue Hippocrate, 10 1200 BRUXELLES BELGIUM
Koenraad van Eygen	AZ Groeninge - Oncology Centre Route E042 - President Kennedylaan, 4 8500 KORTRIJK BELGIUM
Achiel van Hoof	A. Z. Sint-Jan, Department of Hematology Ruddershove, 10 8000 BRUGGE BELGIUM
Gaetan Vanstraelen	CHR Peltzer La Tourelle Rue du Parc, 29 4800 VERVIERS BELGIUM
Emma Verner	Concord Repatriation General Hospital Department of Haematology Concord Hospital NSW 2139 CONCORD AUSTRALIA
Pauline Warburton	Wollongong Hospital Haematology Department Crown Street NSW 2500 WOLLONGONG AUSTRALIA
Go Yamamoto	Toranomon Hospital, 2-2-2 Toranomon, Minato-ku, 105- 8470 Tokyo
Hisayuki Yokoyama	National Hospital Organization Sendai Medical Center, 2-8- 8 Miyagino, Myagino-ku, Sendai, 983-8520 Miyagi
Loic Ysebaert	IUCT Oncopole Service d'Hématologie 1 avenue Irène Joliot Curie 31059 TOULOUSE Cedex 09 FRANCE
Pierre Zachee	ZNA Stuivenberg Department of Hematology Lange Beeldeckenstraat, 267 2060 ANTWERPEN BELGIUM
Hacene Zerazhi	CH d'Avignon - Hôpital Henri Duffaut Service Hématologie 305 rue Raoul Follereau 84902 AVIGNON Cedex 9 FRANCE
Pier Luigi Zinzani	Policlinico Sant'Orsola-Malpighi Istituto di Ematologia "L. e A. Seragnoli" Via Massarenti 9 40138 BOLOGNA ITALY

Supplementary Methods

Patients

Patients were required to have histologically confirmed CD20+ follicular lymphoma (FL) grade 1-3a, with an Eastern Cooperative Oncology Group (ECOG) performance status (PS) ≤ 2 , stage II-IV disease, bidimensionally measurable disease with at least one lesion > 2 cm not previously irradiated, requiring treatment, and having no prior systemic treatment for lymphoma.

Patients were required to be in need of treatment according to Groupe d'Etude des Lymphomes Folliculaires (GELF) criteria as evidenced by at least one of the following: bulky disease defined as: a nodal or extranodal (except spleen) mass > 7 cm in its greater diameter or involvement of at least 3 nodal or extranodal sites (each with a diameter greater than > 3 cm); presence of at least one of the following B symptoms: fever (> 38 degrees Celsius) of unclear etiology, night sweats, weight loss greater than 10% within the prior 6 months; symptomatic splenomegaly; compression syndrome (ureteral, orbital, gastrointestinal); any one of the following cytopenias due to lymphoma: hemoglobin < 10 g/dL (6.25 mmol/L), platelets $< 100 \times 10^9/L$, or absolute neutrophil count $< 1.5 \times 10^9/L$; pleural or peritoneal serous effusion (irrespective of cell content); and/or lactate dehydrogenase or $\beta 2$ microglobulin greater than the upper limit or normal.

Exclusion criteria included evidence of grade 3b FL or transformed lymphoma; corticosteroid use ≤ 4 weeks prior to enrollment, unless at a dose equivalent to < 10 mg/day of prednisone; seropositivity for or active viral infection of hepatitis B or C virus, or human immunodeficiency virus; life expectancy < 6 months; prior history of malignancies, other than FL, unless disease free for ≥ 10 years; prior use of lenalidomide; neuropathy grade > 1 ; presence or history of central nervous system involvement of lymphoma; high risk for a thromboembolic

event and unwilling to take venous thromboembolic prophylaxis; serum aspartate transaminase or alanine transaminase >3 times upper limit of normal, except in patients with documented liver involvement of lymphoma; total bilirubin >2.0 mg/dL except in cases of Gilbert's syndrome and documented liver or pancreatic involvement of lymphoma; creatinine clearance <30 mL/min; and pregnant or lactating females.

Study Design

Patients were stratified by FLIPI score (0-1 vs 2 vs 3-5), age (>60 vs ≤60 years), and lesion size (>6 vs ≤6 cm) and randomized 1:1 to rituximab plus lenalidomide or rituximab plus chemotherapy. A Follicular Lymphoma International Prognostic Index (FLIPI) score indicates low (0-1), intermediate (2), and high (3-5) risk groups based on a scoring system giving 1 point for each of the following risk factors: hemoglobin < 12 g/L, > 4 nodal areas (with the exception of spleen), > 60 years of age, > normal lactate dehydrogenase levels, and Ann Arbor stage III/IV disease.¹ When these prognostic factors were originally defined from 1795 patients with follicular lymphoma, the low-, intermediate-, and high-risk groups were comprised of 36%, 37%, and 27% of patients, respectively, with respective 10-year overall survival rates of 71%, 51%, and 36%.¹

Patients randomized to the R-chemo group received investigator's choice of one of three possible combination regimens: R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone), R-B (rituximab and bendamustine), or R-CVP (rituximab, cyclophosphamide, vincristine, and prednisone). R-CHOP (rituximab 375 mg/m² intravenous [IV] day 1, cyclophosphamide 750 mg/m² IV day 1, doxorubicin 50 mg/m² IV day 1, vincristine 1.4 mg/m² IV day 1, and prednisone 100 mg/day oral [PO] days 1-5) included six 21-day cycles

followed by two 21-day cycles of rituximab 375 mg/m², and 7 weeks later, responding patients continued with rituximab 375 mg/m² every 8 weeks for 12 cycles. R-B (rituximab 375 mg/m² IV day 1, bendamustine 90 mg/m² IV day 1-2) was given for six 28-day cycles; and 8 weeks later, responding patients continued with rituximab 375 mg/m² every 8 weeks for 12 cycles. R-CVP (rituximab 375 mg/m² IV day 1, cyclophosphamide 750 mg/m² IV day 1, vincristine 1.4 mg/m² IV day 1, prednisone 40 mg/day PO days 1–5) was given for eight 21-day cycles; and 7 weeks later, responding patients continued with rituximab 375 mg/m² every 8 weeks for 12 cycles. The total treatment duration was 120 weeks for both study arms.

For patients receiving lenalidomide and who were at high risk for a thromboembolic event, prophylaxis with aspirin (70–325 mg/day), low molecular weight heparin, or warfarin was recommended. Patients in the lenalidomide arm received prophylaxis for tumor lysis syndrome, including allopurinol, rasburicase, or equivalent (per institutional guidelines) and were to be well-hydrated during the first week of treatment. In both arms, growth factor use was not administered prophylactically (except in high-risk patients) and should be used in accordance with ASCO/ESMO guidelines.^{22,23}

For the co-primary endpoint of CR/CRu rate at 120 weeks, two interim analyses for futility were pre-planned. In the first interim futility analysis, the futility boundary to establish superiority was crossed, no safety issues clearly seen, and the DMC initially recommended stopping the study as per their charter. At this time, all patients had been enrolled in the study, and the majority had completed induction. Due to the lack of a significant safety signal between arms, a discussion occurred between the Joint Data Review Board (JDRB) and the DMC, and it was blinded to the investigators and study teams, and the DMC agreed to continue the study.

The DMC reinforced the monitoring of events until the second interim futility analysis, when they recommended continuation of the study. The co-primary endpoint PFS was analyzed as an interim superiority analysis in the current analysis presented in the manuscript.

Response was assessed by 1999 IWG criteria (which included computed tomography [CT] scans) with the following schedule: 12 weeks after the first dose (-1 week/+2 weeks), 24 weeks after the first dose (-1 week/+4 weeks), 36 weeks after the first dose (-1 week/+2 weeks), 52 weeks after the first dose (-1 week/+2 weeks), 76 weeks after the first dose (-1 week/+3 weeks), 100 weeks after the first dose (-1 week/+3 weeks), 120 weeks after the first dose (-1 week/+4 weeks), and then every 6 months (\pm 4 weeks) for 5 years and then every year (\pm 4 weeks) until disease progression or relapse. CT scans were required at the above timepoints; FDG-PET scans could be submitted as an addition, but not in lieu of, CT scans at 24, 76, and 120 weeks. To confirm CR/CRu, patients with positive bone marrow at screening were required to have a post-screening bone marrow biopsy to confirm CR/CRu within 28 days of first achieving radiological, clinical, and biochemical CR/CRu. Patients with negative bone marrow biopsy at screening or those not in CR/CRu did not require further bone marrow biopsy.

Hematology laboratory evaluations (red blood cell count, hemoglobin, hematocrit, white blood cell count and differential, absolute neutrophil count, and platelet count) within 48 hours of day 1 of every treatment cycle. Hematology laboratory evaluations for cycle 1, day 8 and 15 and cycle 2-4, day 15 hematology labs were required only for patients in the R² arm and suggested for patients in the R-chemo arm to monitor for cytopenias; evaluations for cycles 5-6, day 15 were required for all patients.

Lenalidomide Dose Modifications

Lenalidomide dose modifications were allowed at 5-mg increments. If a dose-limiting toxicity (DLT) occurred on or after day 15 of a cycle, treatment was held until the end of the cycle and the dose was reduced in the subsequent cycle. If a DLT occurred before day 15 of a cycle, treatment was held until recovery and restarted without dose reduction for the remainder of the cycle and reduced in subsequent cycles. If lenalidomide dosing was interrupted for toxicity or cycle delayed, it could be restarted only if the absolute neutrophil count (ANC) was $\geq 1,000$ cells/mm³, the platelet count was $\geq 50,000$ cells/mm³, lenalidomide related allergic reaction or hypersensitivity not requiring discontinuation resolved to \leq grade 1, or any other lenalidomide-related adverse event (AE) not requiring discontinuation had resolved to grade ≤ 2 (except where noted below). In the instance of grade ≥ 3 neutropenia (grade 3 lasting ≥ 7 days or associated with fever, any grade 4), lenalidomide was held, complete blood counts (CBCs) were monitored every 7 days, and growth factor use was permitted. Lenalidomide was also held in the instance of grade ≥ 3 thrombocytopenia (complete blood counts were monitored); grade 2 allergic reaction or hypersensitivity; grade ≥ 3 constipation; grade ≥ 3 venous thrombosis/embolism (anticoagulation was started, dose restarted at original level at investigators discretion); newly developed grade ≥ 3 peripheral neuropathy (restarted if resolved to grade ≤ 1); grade ≥ 3 tumor flare reaction (non-steroidal anti-inflammatory drugs, corticosteroids, and/or narcotics were initiated; restarted if resolved to grade ≤ 1); grade ≥ 2 tumor lysis syndrome (restarted if resolved to grade 0); and grade 3 non-desquamating rash (restarted if resolved to grade ≤ 1). If patients had symptoms of hyperthyroid and thyroid-simulating hormones were less than the lower limit of normal, lenalidomide was held and

restarted at the same dose if endocrine evaluation ruled out hyperthyroidism or restarted at the next lower dose if hyperthyroidism was confirmed and alternative etiologies were eliminated. For liver function tests, lenalidomide was interrupted if alanine transaminase was grade ≥ 3 and resumed at original doses if levels returned to baseline within 14 days or at a decreased dose if recovery was beyond 14 days. Lenalidomide was permanently discontinued in the instance of grade ≥ 3 allergic reaction, grade 4 rash, or any grade desquamating rash.

Dose modifications of chemotherapy were allowed in accordance with the clinical practice of the investigator's institution and in line with the approved prescribing information of each agent. There were no dose adjustments for rituximab. In case of delay due to lenalidomide-induced toxicity, rituximab was also postponed until the dose-limiting toxicity had resolved and lenalidomide was restarted.

Statistical Analysis

There are three planned analyses for PFS. To control the overall type I error for PFS, an alpha spending function of gamma family with parameter -2.5 was applied. It was estimated that approximately 228 PFS events (i.e., 0.50 information) would occur at the first interim PFS analysis, and 342 PFS events (i.e., 0.75 information) were required at the second interim PFS analysis. The final PFS analysis will be performed based on a total of 456 PFS events. A statistically significant treatment effect on PFS will be reached if the two-sided P value is ≤ 0.011 at the first interim PFS analysis, ≤ 0.019 at the second interim PFS analysis, or ≤ 0.039 at the final PFS analysis.

All statistical analyses were performed using SAS software version 9.2 or higher (SAS Institute, Cary, NC) and AdClin software version 3.2.2 or higher (AdClin S.A., Paris, France). The

power calculation for the response rates was performed using EAST v5.4 software based on the large sample z-test with unspooled variance estimate. It was hypothesized that the median PFS would be 83 months in the R-chemo group, with a 30% increase in the R² group (corresponding hazard ratio of 0.7692). For 80% power to detect this difference with two-sided $\alpha = 0.05$, a total of 456 progression/relapse/death events was required.

Supplementary Results

Dosing

In the R² arm, 53 patients started lenalidomide at 10 mg due to creatinine clearance rate of < 60 mL/min, whereas 454 patients started at the 20 mg dose.

Transformations

Among the 17 patients with transformation, a majority had transformations to DLBCL (9/10 in R² arm and 7/7 in R-chemo arm), and 1 patient had granulocytic sarcoma (R² arm) rather compatible with transdifferentiation (as described by Xerri et al²).

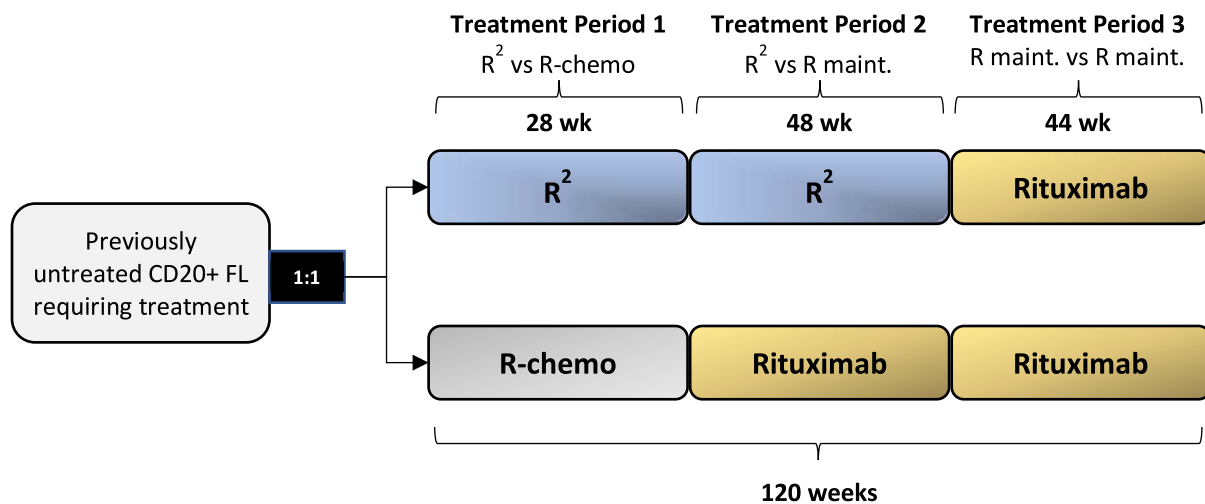
Thromboembolic Events

Venous thromboembolic events occurred in 3% of patients for both arms; arterial thromboembolic events occurred in 2% R² versus <1% R-chemo of patients; and mixed thromboembolism occurred in 2% of patients for both arms. 78% of R² patients and 28% R-chemo received either anti-coagulant or anti-platelet concomitant medications.

Deaths Related to Study Treatment

One 68-year-old male patient with high-risk FLIPI (FLIPI score=4) and bulky disease (>7 cm) in the R² arm died 9 days after randomization of related pulmonary embolism during cycle 1. One 88-year-old male patient with intermediate FLIPI in the R-chemo arm died 70 days after randomization of related septic shock after receiving 2 cycles of R-B induction treatment.

Supplementary Figure S1. RELEVANCE Study Design.



R² treatment: six cycles of lenalidomide 20 mg/day on days 2-22 every 28 days (10 mg if creatinine clearance ≥ 30 - <60 ml/min). Patients responding after six cycles with CR/CRu then received 12 cycles of lenalidomide 10 mg/day. Patients exhibiting a partial response (PR) after six cycles received three or six additional cycles of lenalidomide at 20 mg until achieving a CR/CRu. All patients received lenalidomide at 10 mg in remaining cycles for a total of 18 cycles. Rituximab 375 mg/m² was given on days 1, 8, 15, and 22 of cycle 1 and day 1 of cycles 2-6; responders continued rituximab every 8 weeks for 12 cycles.

R-chemo treatment regimens were selected based on investigator's choice of one of three possible combination regimens: R-CHOP, R-B, or R-CVP.

R-CHOP: rituximab 375 mg/m² IV day 1, cyclophosphamide 750 mg/m² IV day 1, doxorubicin 50 mg/m² IV day 1, vincristine 1.4 mg/m² IV day 1, and prednisone 100 mg/day [PO days 1-5] for six 21-day cycles followed by two 21-day cycles of rituximab 375 mg/m², and 7 weeks later, responding patients continued with rituximab 375 mg/m² every 8 weeks for 12 cycles

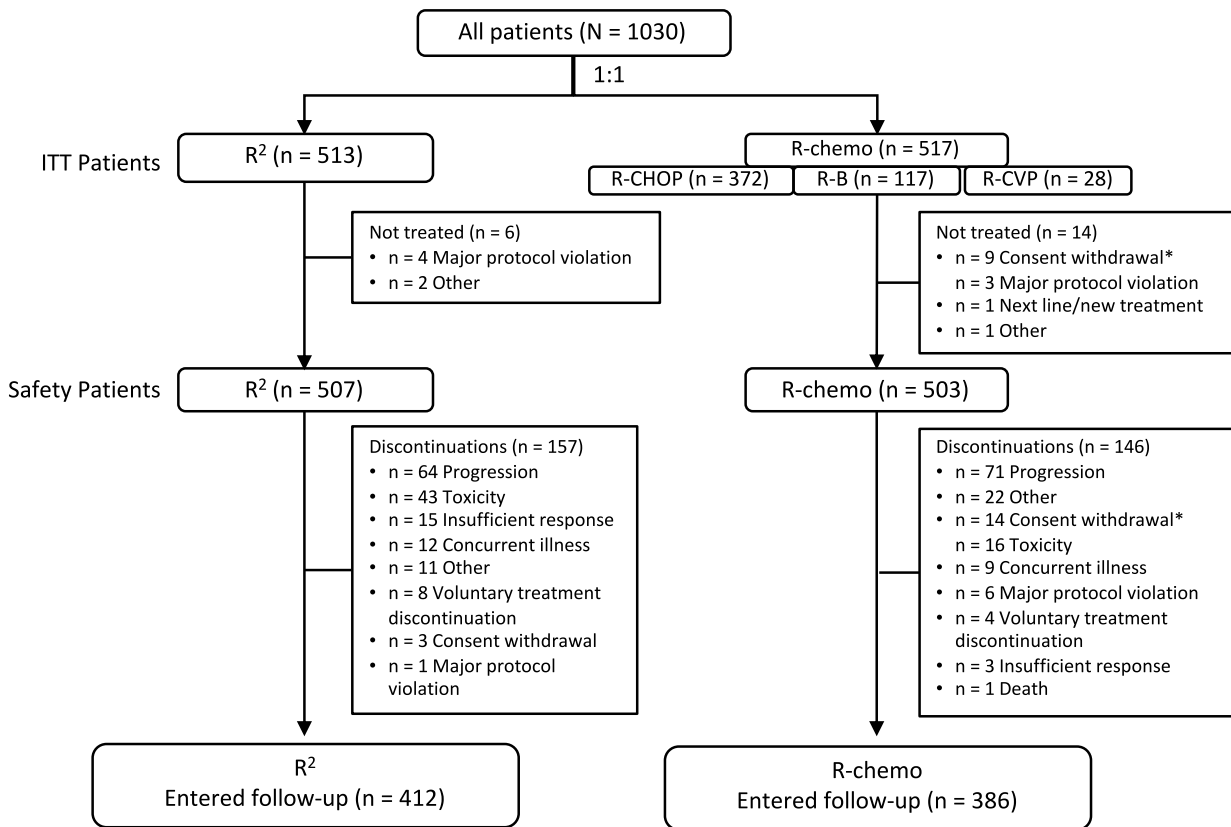
R-B: rituximab 375 mg/m² IV day 1 and bendamustine 90 mg/m² IV day 1-2 were given for six 28-day cycles; and 8 weeks later, responding patients continued with rituximab 375 mg/m² every 8 weeks for 12 cycles

R-CVP: rituximab 375 mg/m² IV day 1, cyclophosphamide 750 mg/m² IV day 1, vincristine 1.4 mg/m² IV day 1, and prednisone 40 mg/day PO days 1–5 were given for eight 21-day cycles; and 7 weeks later, responding patients continued with rituximab 375 mg/m² every 8 weeks for 12 cycles

The total treatment duration was 120 weeks for both study arms.

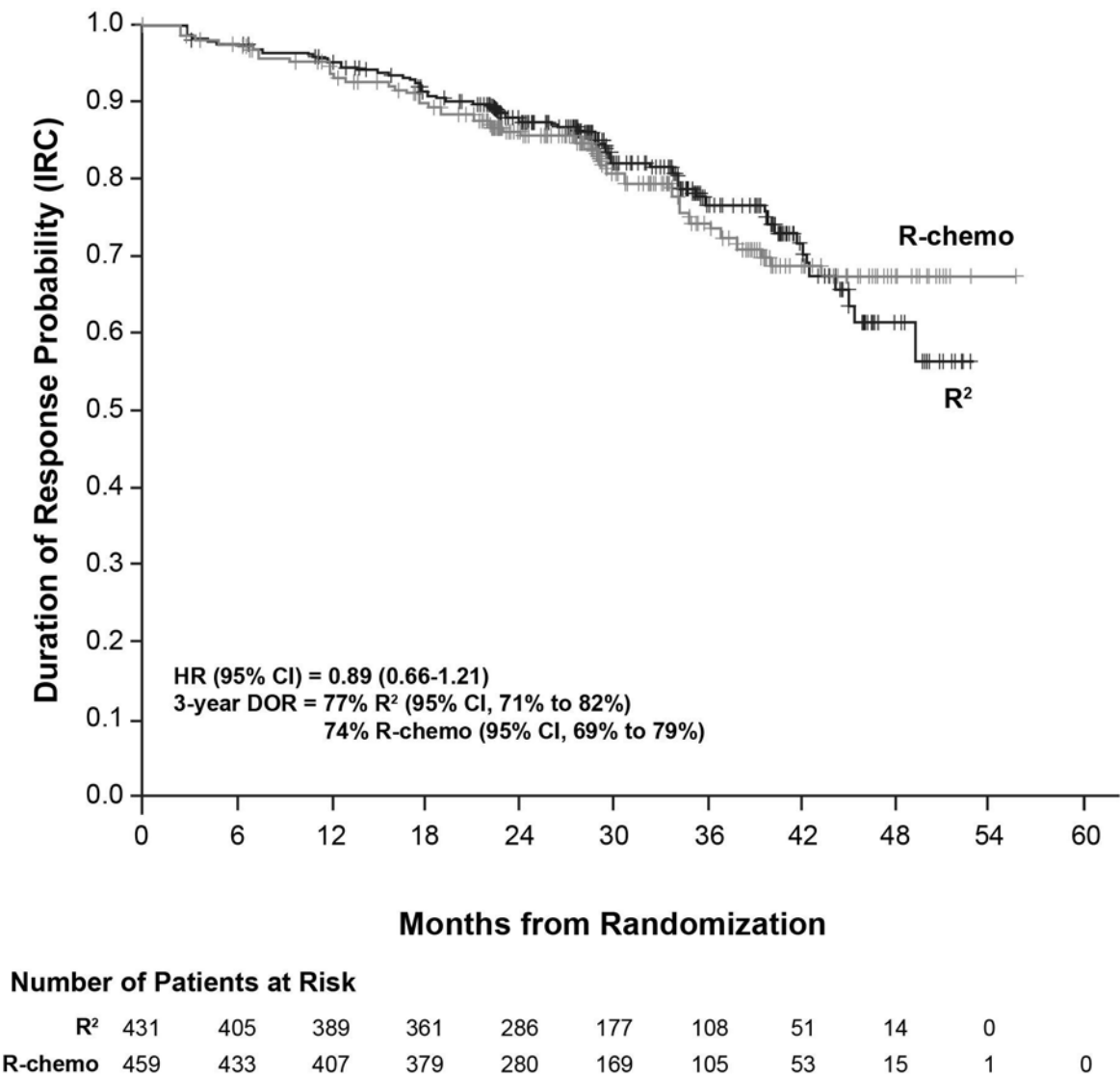
Supplementary Figure S2. CONSORT Diagram.

*Withdrawal of consent during the entire study was unexpectedly over-represented among R-B patients, with 24 of 117 patients (vs. 12 of 400 among R-CHOP/R-CVP patients) who withdrew consent at randomization (n = 5), treatment period 1 (n = 5), treatment periods 2-3 (n = 11), and follow-up (n = 3).

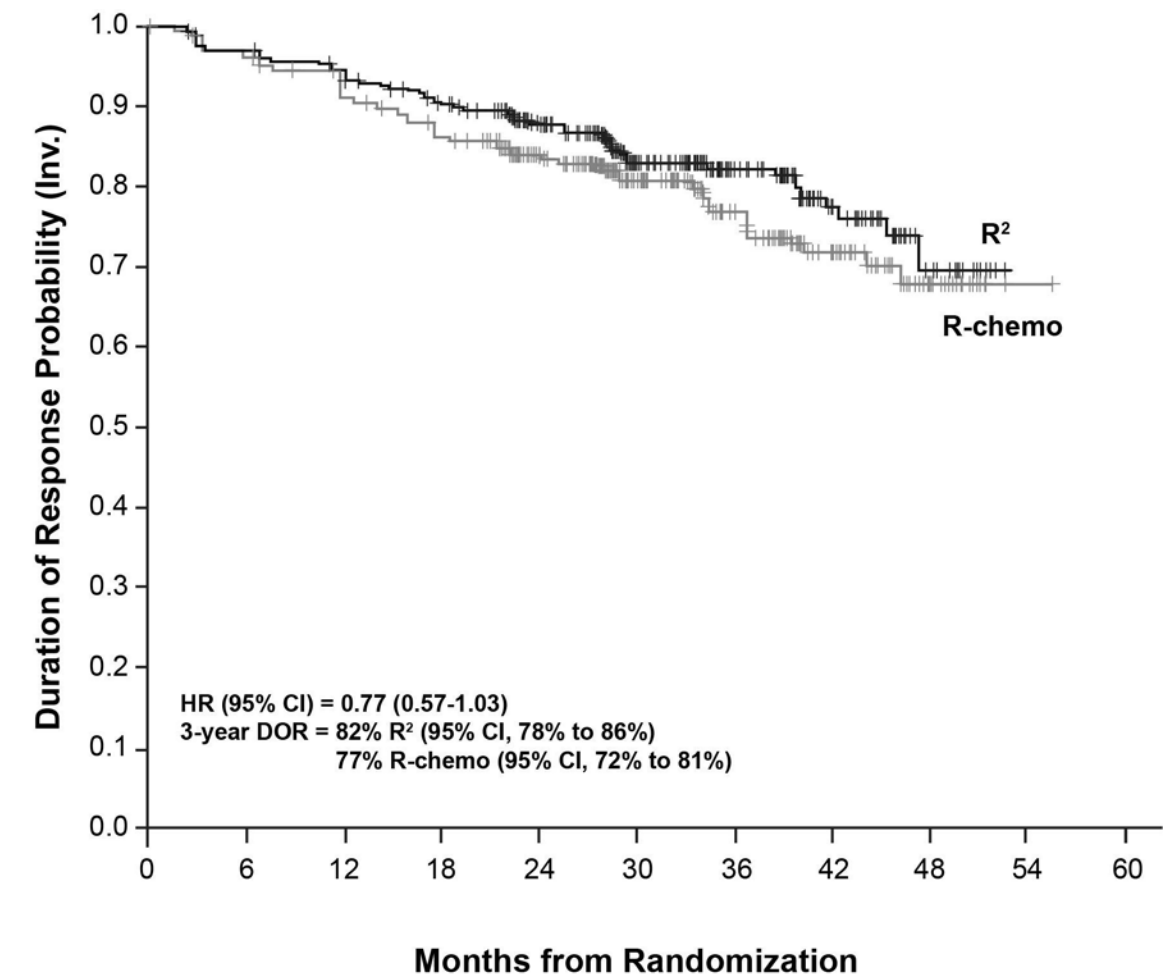


Supplementary Figure S3. Kaplan-Meier Curves of Duration of Response by A. IRC Assessment and B. Investigator Assessment (Intention-to-Treat Population).

A. By IRC Assessment



B. By Investigator Assessment

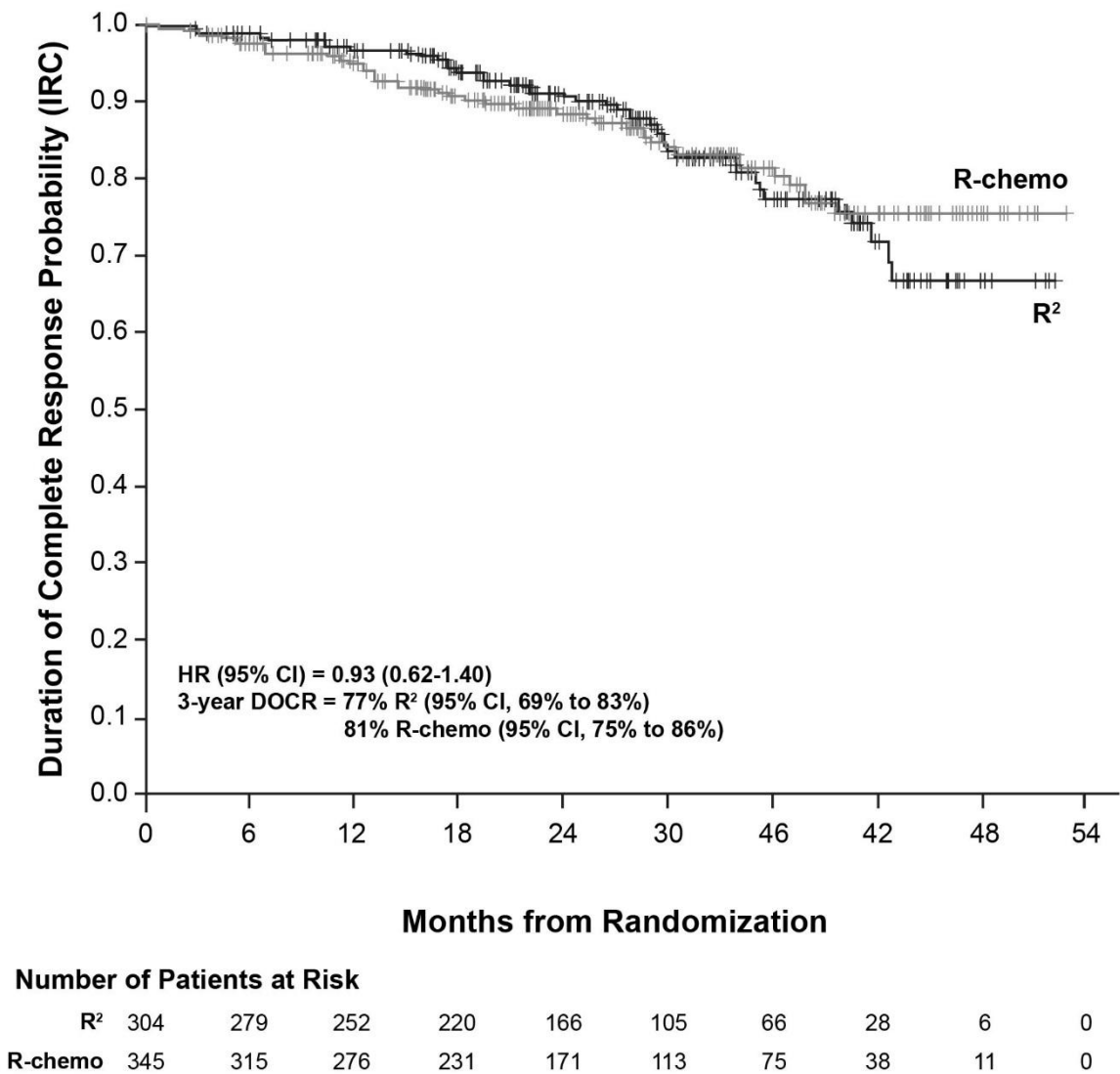


Number of Patients at Risk

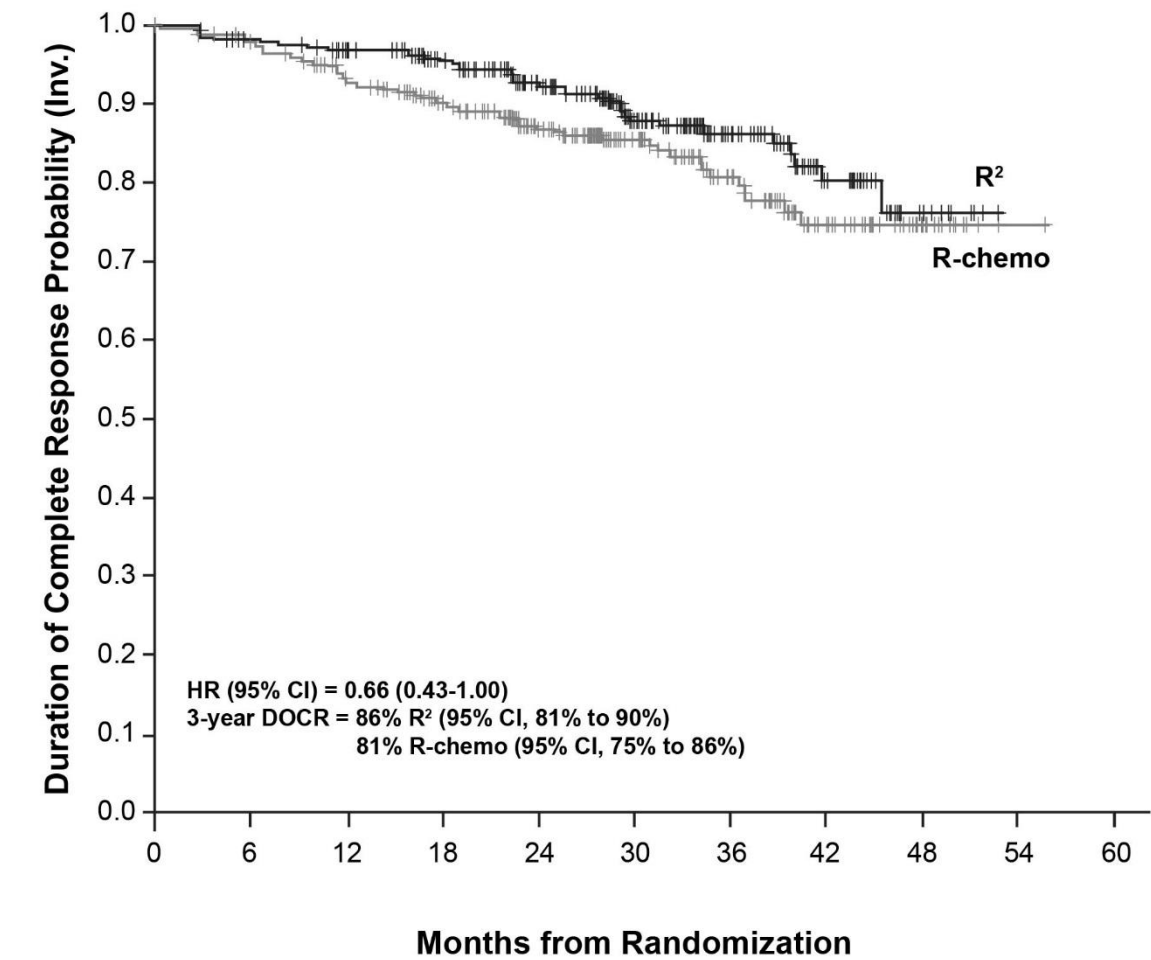
R ²	443	420	403	382	310	188	114	58	14	0	
R-chemo	475	443	415	389	294	186	119	62	19	1	0

Supplementary Figure S4. Kaplan-Meier Curves of Duration of Complete Response by A. IRC Assessment and B. Investigator Assessment (Intention-to-Treat Population).

A. By IRC Assessment

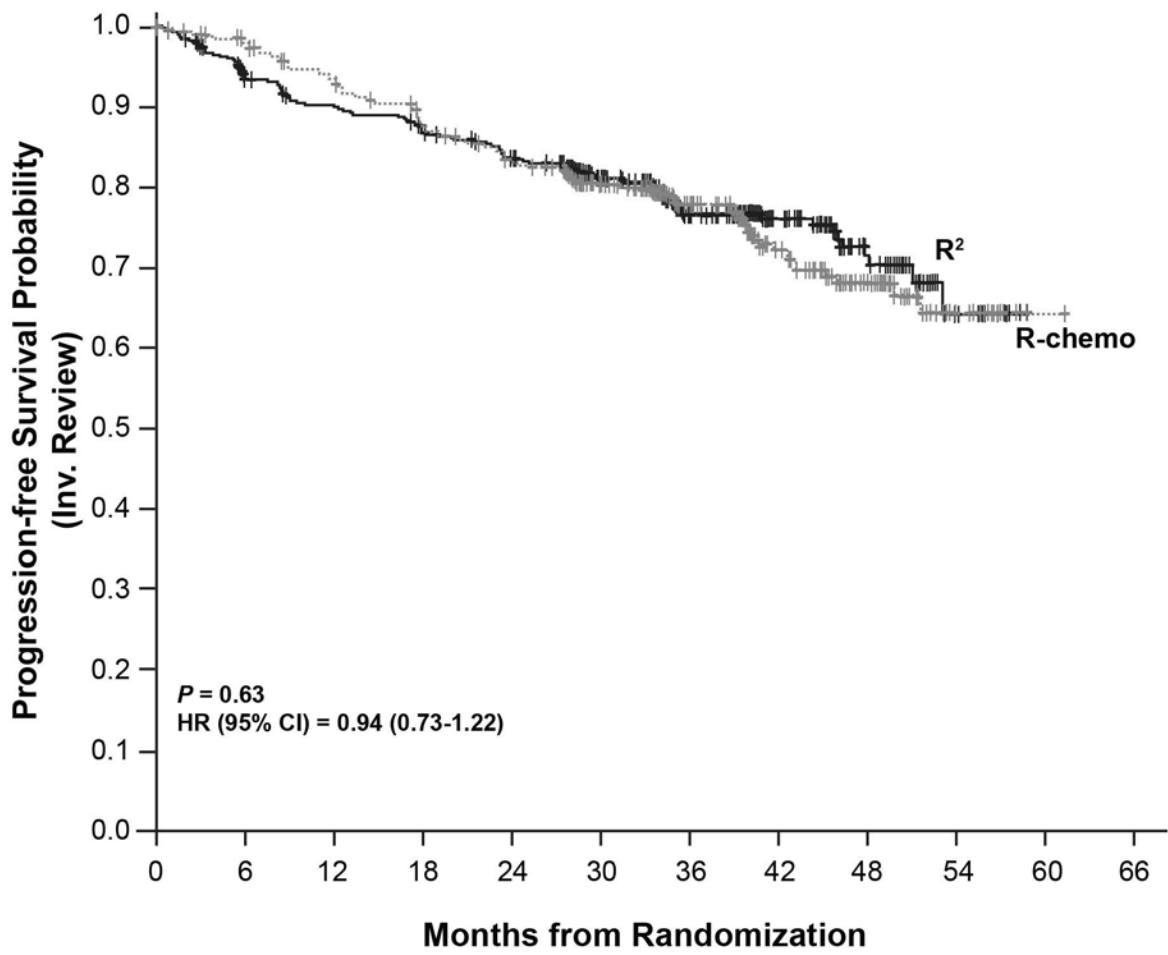


B. By Investigator Assessment



Number of Patients at Risk											
R ²	331	305	287	261	205	132	82	39	9	0	
R-chemo	363	339	308	279	208	132	80	41	16	1	0

Supplementary Figure S5. Kaplan-Meier Curve of Progression-Free Survival by Investigator Assessment (Intention-to-Treat Population).

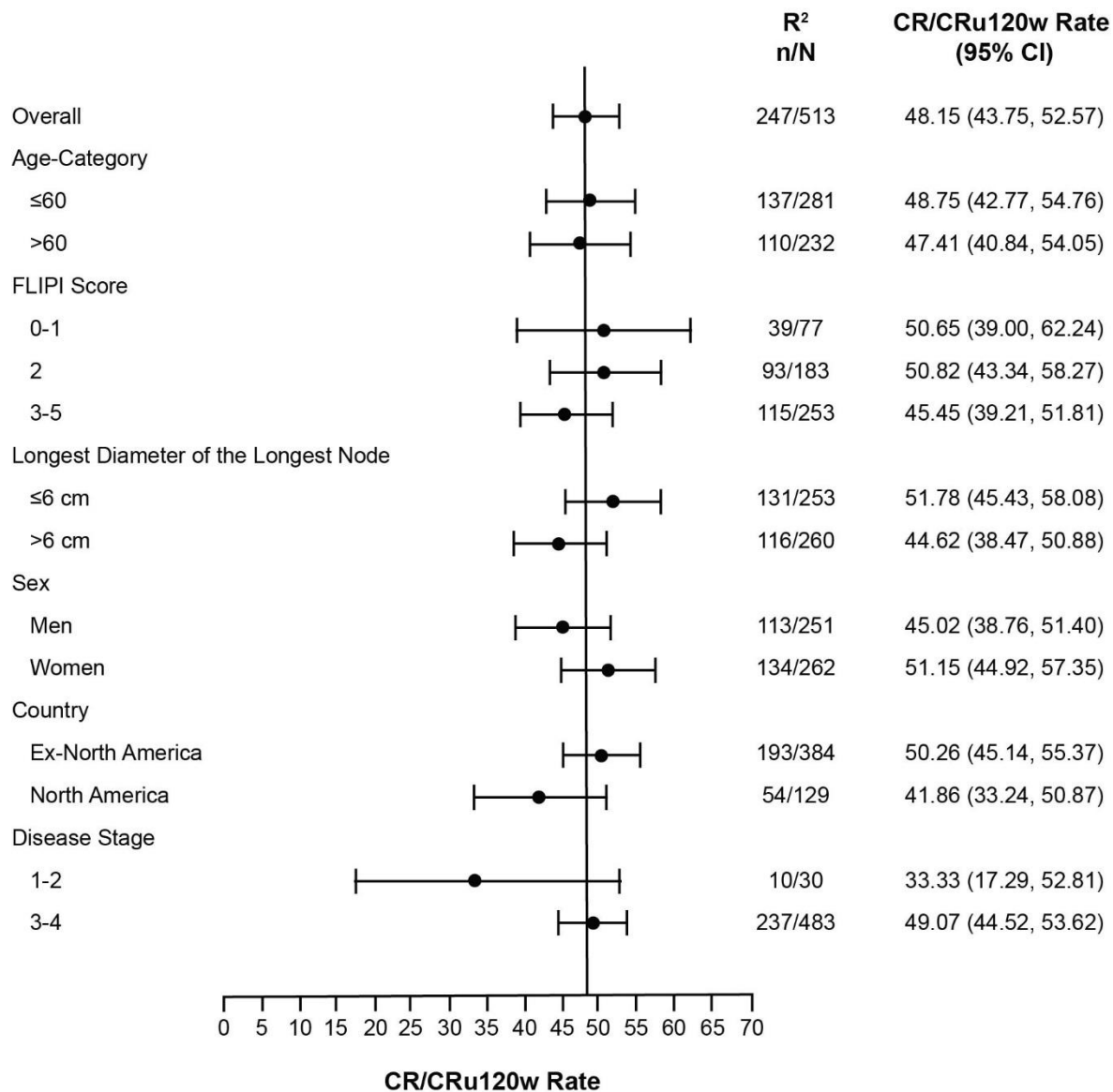


Number of Patients at Risk

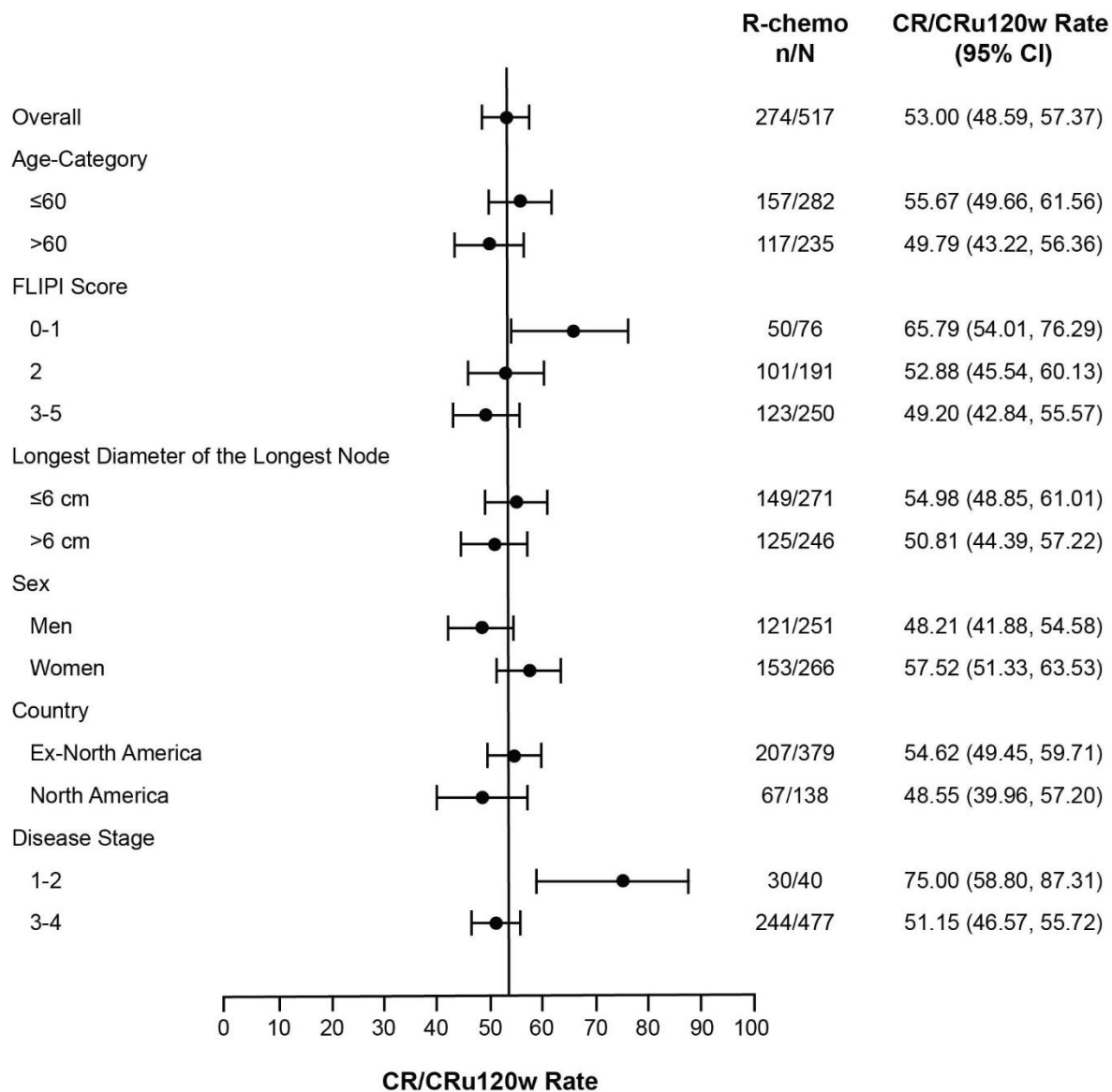
R²	513	443	423	404	385	306	184	114	56	13	0	
R-chemo	517	480	451	418	392	297	188	119	57	15	1	0

Supplementary Figure S6. Forest Plot of CR/CRu120w Within Each Treatment Group at 120 weeks (Intention-to-Treat Population).

A. For the R² arm

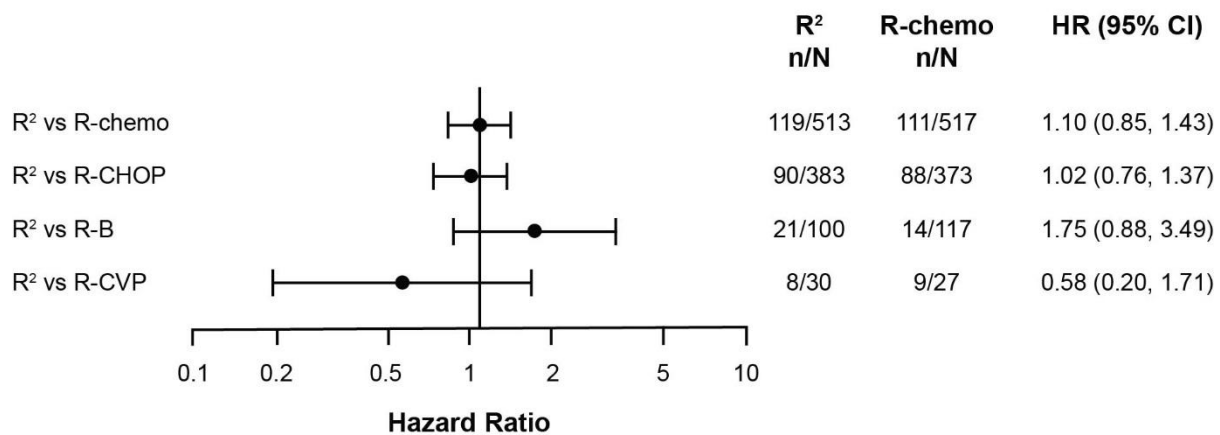


B. For the R-chemo arm

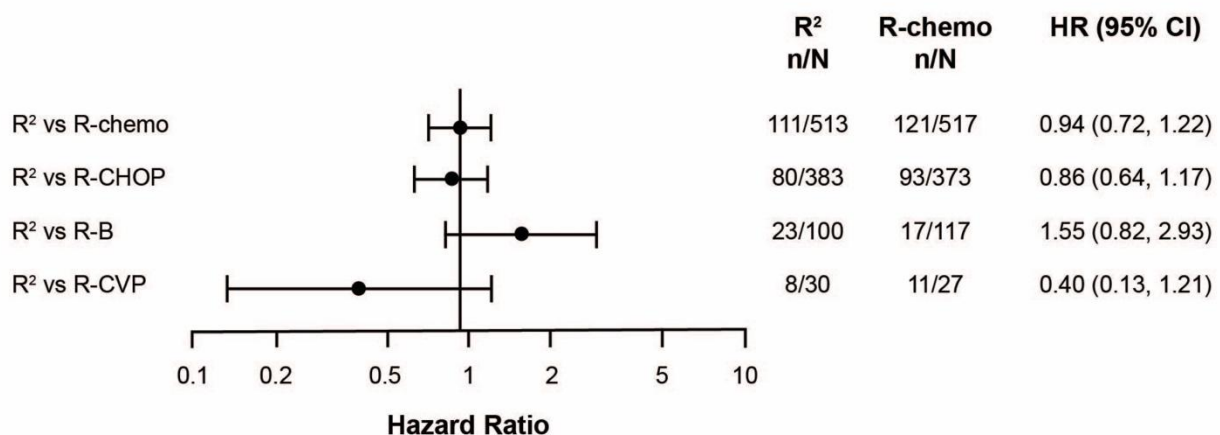


Supplementary Figure S7. Forest Plot of PFS Comparing R² With Each R-chemo Regimen by A. IRC Assessment and B. Investigator Assessment (Intention-to-Treat Population). Hazard ratio was calculated from a Cox model as R-Len (R²) arm vs R-chemo regimen. Subgroup analysis was performed based on the choice of R-chemo regimens prior to randomization. Note: Per protocol, the study was not designed nor powered to compare R² with individual R-chemo regimens. The 2 study arms (R² vs composite R-chemo) were randomized, but individual chemotherapy regimens were not randomized, and the choice of specific R-chemo regimens was according to the discretion of the investigator's/patient's choice. Per protocol, standard of care chemotherapy regimen must be available by prescription, generally reimbursed by the health system and used routinely to treat previously untreated patients with FL at the study centers. Therefore, comparison with R² by chemo regimens is susceptible to bias.

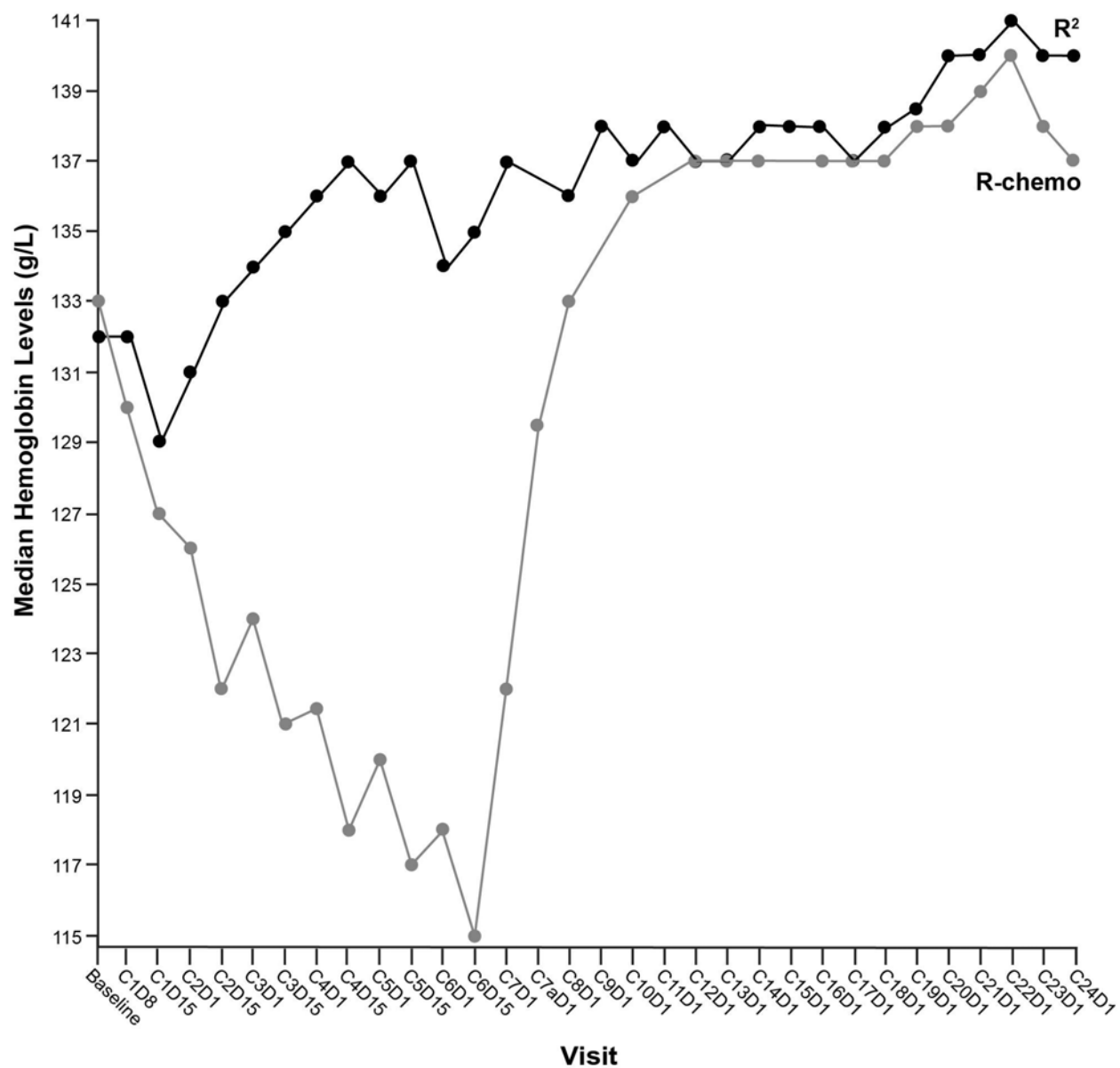
A. By IRC Assessment



B. By Investigator Assessment



Supplementary Figure S8. Median Hemoglobin Levels by Visit and Treatment Arm (Safety Population).



Supplementary Table S2. Baseline Characteristics (ITT Population) Including Each R-chemo Arm.

Characteristic	R ² (N = 513)	All R-chemo (N = 517)	R-CHOP (N = 372)	R-B (N = 117)	R-CVP (N = 28)	Total (N = 1030)
Age — yr						
Median	59	59	59	57	71	59
Range	30-89	23-83	23-83	30-83	27-83	23-89
> 70 yr of age, no. (%)	80 (16)	78 (15)	50 (13)	14 (12)	14 (50)	158 (15)
Male — no. (%)	251 (49)	251 (49)	170 (46)	67 (57)	14 (50)	502 (49)
ECOG PS — no. (%) [*]						
0	341 (66)	345 (67)	250 (67)	80 (68)	15 (54)	686 (67)
1	157 (31)	157 (30)	111 (30)	35 (30)	11 (39)	314 (30)
2	13 (3)	14 (3)	11 (3)	1 (1)	2 (7)	27 (3)
NE	2 (<1)	1 (<1)	0	1 (1)	0	3 (<1)
Ann Arbor stage — no. (%)						
I - II	30 (6)	40 (8)	34 (9)	4 (3)	2 (7)	70 (7)
III - IV	483 (94)	477 (92)	338 (91)	113 (97)	26 (93)	960 (93)
Bulky disease (> 7 cm) — no. (%)	218 (42)	199 (38)	157 (42)	33 (28)	9 (32)	417 (40)
Follicular lymphoma grade — no. (%) [†]						
1-2	437 (85)	443 (86)	314 (84)	104 (89)	25 (89)	880 (85)
3a	65 (13)	63 (12)	50 (13)	11 (9)	2 (7)	128 (12)
Lactate dehydrogenase > ULN — no. (%)	156 (30)	137 (26)	96 (26)	27 (23)	14 (50)	293 (28)
Beta-2 microglobulin > ULN — no. (%)	261 (51)	262 (51)	184 (50)	61 (52)	17 (61)	523 (51)
B-symptoms — no. (%)	141 (28)	134 (26)	89 (24)	35 (30)	10 (36)	275 (27)
FLIPI score — no. (%) [‡]						
Low risk (0-1)	77 (15)	76 (15)	59 (16)	17 (15)	0	153 (15)
Intermediate risk (2)	183 (36)	191 (37)	134 (36)	47 (40)	10 (36)	374 (36)
High risk (3-5)	253 (49)	250 (48)	179 (48)	53 (45)	18 (64)	503 (49)

ULN, upper limit of normal; FLIPI, Follicular Lymphoma International Prognostic Index.

*An Eastern Cooperative Oncology Group (ECOG) performance-status score of 0 indicates no symptoms and 1 indicates mild symptoms; higher scores indicate greater disability.

[†]Follicular lymphoma grade was unspecified or not FL grade 1-3a in 11 patients in each arm.

[‡]A Follicular Lymphoma International Prognostic Score (FLIPI) score indicates low (0-1), intermediate (2), and high (3-5) risk groups based on a scoring system giving 1 point for each of the following risk factors: hemoglobin <12 g/L, >4 nodal areas (with the exception of spleen), >60 years of age, >normal lactate dehydrogenase levels, and Ann Arbor stage III/IV disease.

Supplementary Table S3. Treatment-Emergent Adverse Events by Treatment Arm and Specific R-chemotherapy Arm (Safety Population).

Patients, %	R ² (N = 507)	R-chemo (N = 503)	R-chemo Arms		
			R-CHOP (N = 365)	R-B (N = 112)	R-CVP (N = 26)
At least one TEAE	100	99	99	98	100
At least one grade 3/4 TEAE	65	68	73	53	73
At least one grade 5 TEAE	1	1	1	1	0
At least one SAE	35	29	30	29	27
At least one TEAE leading to early discontinuation of study treatment	11	3	3	5	0
At least one TEAE leading to dose reduction	36	14	14	10	31
At least one TEAE leading to dose interruption	59	35	33	41	31

Abbreviations: SAE, serious adverse event; TEAE, treatment-emergent adverse event.

Supplementary Table S4. Treatment-Emergent Adverse Events by Chemotherapy Regimen and Grade in the Safety Population ($\geq 10\%$ in Either R² or R-chemo and Selected Relevant TEAEs).

Adverse Event — no. (%)	R ² (N = 507)			R-chemo (N = 503)			R-CHOP (N = 365)			R-B (N = 112)			R-CVP (N = 26)		
	All Grade		Grade 3-4	All Grade		Grade 3-4	All Grade		Grade 3-4	All Grade		Grade 3-4	All Grade		Grade 3-4
Any event	506 (100)	330 (65)	498 (99)	344 (68)	362 (99)	266 (73)	110 (98)	59 (53)	26 (100)	19 (73)					
Neutropenia*	381 (75)	160 (32)	386 (77)	252 (50)	288 (79)	208 (57)	75 (67)	30 (27)	23 (88)	14 (54)					
Anemia*	333 (66)	0	446 (89)	0	341 (93)	0	82 (73)	0	23 (88)	0					
Thrombocytopenia*	268 (53)	11 (2)	266 (53)	8 (2)	192 (53)	7 (2)	69 (62)	1 (1)	5 (19)	0					
Cutaneous reactions [†]	220 (43)	36 (7)	120 (24)	5 (1)	83 (23)	4 (1)	34 (30)	1 (1)	3 (12)	0					
Diarrhea	187 (37)	10 (2)	95 (19)	6 (1)	52 (14)	4 (1)	37 (33)	1 (1)	6 (23)	1 (4)					
Constipation	178 (35)	1 (<1)	167 (33)	5 (1)	111 (30)	5 (1)	43 (38)	0	13 (50)	0					
Rash	146 (29)	20 (4)	39 (8)	1 (<1)	21 (6)	0	17 (15)	1 (1)	1 (4)	0					
Asthenia	145 (29)	4 (<1)	140 (28)	4 (<1)	129 (35)	4 (1)	5 (4)	0	6 (23)	0					
Fatigue	115 (23)	1 (<1)	147 (29)	4 (<1)	67 (18)	2 (<1)	74 (66)	2 (2)	6 (23)	0					
Cough	103 (20)	0	69 (14)	1 (<1)	44 (12)	1 (<1)	21 (19)	0	4 (15)	0					
Nausea	100 (20)	0	209 (42)	8 (2)	130 (36)	5 (1)	72 (64)	2 (2)	7 (27)	1 (4)					
Pyrexia	97 (19)	2 (<1)	73 (15)	0	45 (12)	0	24 (21)	0	4 (15)	0					
Bronchitis	83 (16)	4 (<1)	91 (18)	1 (<1)	80 (22)	1 (<1)	6 (5)	0	5 (19)	0					
Pruritus	82 (16)	2 (<1)	33 (7)	0	22 (6)	0	8 (7)	0	3 (12)	0					
Abdominal pain	78 (15)	4 (<1)	46 (9)	4 (<1)	32 (9)	3 (1)	12 (11)	1 (1)	2 (8)	0					
Back pain	78 (15)	2 (<1)	65 (13)	1 (<1)	49 (13)	0	11 (10)	0	5 (19)	1 (4)					
Myalgia	73 (14)	0	29 (6)	1 (<1)	16 (4)	1 (<1)	11 (10)	0	2 (8)	0					
Arthralgia	71 (14)	3 (<1)	70 (14)	1 (<1)	42 (12)	1 (<1)	23 (21)	0	5 (19)	0					
Peripheral edema	69 (14)	0	47 (9)	1 (<1)	31 (8)	0	12 (11)	0	4 (15)	1 (4)					
Muscle spasms	68 (13)	0	21 (4)	0	16 (4)		3 (3)		2 (8)						
Headache	67 (13)	1 (<1)	60 (12)	1 (<1)	32 (9)	1 (<1)	25 (22)	0	3 (12)	0					
Infusion-related reaction	66 (13)	7 (1)	56 (11)	1 (<1)	25 (7)	1 (<1)	30 (27)	0	1 (4)	0					

Adverse Event — no. (%)	R ² (N = 507)						R-chemo Arms					
	Grade			R-chemo (N = 503)			R-CHOP (N = 365)			R-B (N = 112)		
	All Grade	3-4	Grade	All Grade	3-4	Grade	All Grade	3-4	Grade	All Grade	3-4	Grade
Rhinitis	56 (11)	0	34 (7)	0	0	34 (9)	0	0	0	0	0	0
Dyspnea	55 (11)	1 (<1)	52 (10)	2 (<1)	0	33 (9)	1 (<1)	0	0	14 (13)	0	5 (19)
Viral upper respiratory tract infection	48 (10)	0	32 (6)	0	0	22 (6)	0	0	0	8 (7)	0	2 (8)
Upper respiratory tract infection	47 (9)	0	55 (11)	0	0	22 (6)	0	0	0	28 (25)	0	5 (19)
Paresthesia	37 (7)	0	57 (11)	0	0	46 (13)	0	0	0	8 (7)	0	3 (12)
Upper abdominal pain	37 (7)	0	53 (11)	0	0	46 (13)	0	0	0	6 (5)	0	1 (4)
Vomiting	34 (7)	2 (<1)	94 (19)	7 (1)	0	61 (17)	5 (1)	0	0	31 (28)	2 (2)	2 (8)
Peripheral neuropathy	35 (7)	1 (<1)	79 (16)	3 (<1)	0	71 (19)	3 (1)	0	0	6 (5)	0	2 (8)
Insomnia	31 (6)	2 (<1)	58 (12)	2 (<1)	0	34 (9)	2 (<1)	0	0	21 (19)	0	3 (12)
Tumor flare reaction	30 (6)	7 (1)	1 (<1)	0	0	1 (<1)	0	0	0	0	0	0
Leukopenia	21 (4)	8 (2)	48 (10)	30 (6)	0	39 (11)	26 (7)	0	0	7 (6)	3 (3)	2 (8)
Febrile neutropenia	11 (2)	11 (2)	34 (7)	33 (7)	0	27 (7)	26 (7)	0	0	6 (5)	6 (5)	1 (4)
Tumor lysis syndrome	7 (1)	6 (1)	5 (1)	3 (<1)	0	3 (1)	1 (<1)	0	0	2 (2)	2 (2)	0
Alopecia	5 (1)	0	45 (9)	3 (<1)	0	39 (11)	3 (1)	0	0	4 (4)	0	2 (8)

*Based on laboratory tests. All anemia events were grade 1.

[†]Cutaneous reactions included preferred terms from skin and subcutaneous tissue disorders, gastrointestinal disorders, general disorders and administration site conditions, infections and infestations, and reproductive system and breast disorders system organ classes.

Supplementary Table S5. Infections Associated with Grade 3/4 Neutropenia (Safety Population) and Use of Concomitant Antimicrobial Medications (Intention-to-Treat Population).

	R² (N = 507)	R-chemo (N = 503)
Patients with grade 3/4 neutropenia – no. (%)	160 (32)	252 (50)
Patients with concurrent any-grade infection – no. (%)	27 (5)	62 (12)
Patients with concurrent grade 3/4 infection – no. (%)	10 (2)	20 (4)
Patients with grade 4 neutropenia – no. (%)	41 (8)	154 (31)
Patients with concurrent any-grade infection – no. (%)	6 (1)	33 (7)
Patients with concurrent grade 3/4 infection – no. (%)	5 (1)	11 (2)
Use of concomitant antimicrobial agents – no. (%)	R² (N = 513)	R-chemo (N = 517)
Antibacterial medication	382 (74)	404 (78)
Antiviral medication	200 (39)	247 (48)
Antifungal medication	51 (10)	83 (16)

Supplementary Table S6. Incidence of Second Primary Malignancies Across Treatment Arms (Safety Population).

	R² (N = 507)	R-chemo (N = 503)	R-chemo Arms		
			R-CHOP (N = 365)	R-B (N = 112)	R-CVP (N =26)
Second primary malignancies, all cases – no. (%)	38 (7)	48 (10)	29 (8)	16 (14)	3 (12)
Invasive second primary malignancies – no. (%)	25 (5)	27 (5)	20 (5)	7 (6)	0
Hematologic – no. (%)	4 (<1)	2 (<1)	1 (<1)	1 (<1)	0
Solid tumor – no. (%)	21 (4)	26 (5)	19 (5)	7 (6)	0
Non-invasive second primary malignancies – no. (%)	13 (3)	21 (4)	9 (2)	9 (8)	3 (12)

Supplementary References

1. Solal-Celigny P, Roy P, Colombat P, et al. Follicular Lymphoma International Prognostic Index. Blood. 2004;104:1258-65.
2. Xerri L, Dirnhofer S, Quintanilla-Martinez L, et al. The heterogeneity of follicular lymphomas: from early development to transformation. Virchow Arch. 2016;468:127-39.