



University of Groningen

# Presentation and early detection of posttransplant lymphoproliferative disorder after solid organ transplantation

Bakker, Nicolaas Arjen

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version Publisher's PDF, also known as Version of record

Publication date: 2007

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA): Bakker, N. A. (2007). Presentation and early detection of posttransplant lymphoproliferative disorder after solid organ transplantation. s.n.

#### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: https://www.rug.nl/library/open-access/self-archiving-pure/taverneamendment.

Take-down policy If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): http://www.rug.nl/research/portal. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Presentation and early detection of posttransplant lymphoproliferative disorder after solid organ transplantation The studies described in this thesis were performed at the Departments of Haematology, Pulmonary Diseases, Nephrology and Pathology and Laboratory Medicine, University Medical Centre Groningen, University of Groningen, The Netherlands.

Publication of this thesis was financially supported by:

Dutch Kidney Foundation Stichting ter bevordering Haematologie Groningen University of Groningen Astellas Pharma BV (Prograft®) Roche Nederland BV University Medical Centre Groningen Amgen BV Ortho-Biotech Novartis Pharma BV Graduate School for Drug Exploration (GUIDE)

Cover: The diagnostic process involved in "presentation and early detection of PTLD". The first picture shows an X-ray of the thorax of a lung transplant recipient in which a small nodule is detected in the right lung. The second picture shows a CT scan and a CT scan fused with FDG-PET in which focal accumulation of FDG revealed PTLD involvement of the liver. Finally, in the third picture, a biopsy is taken in which multiple EBER positive B-cells are detected, thereby confirming the diagnosis of PTLD.

ISBN: 9-789036-729659 ISBN: e9-789036-729666

### © Copyright 2007 Nicolaas A. Bakker

All rights are reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanically, by photocopying, recording or otherwise, without the written permission of the author.

Cover design: P. van der Sijde, Groningen, The Netherlands Page layout: P. van der Sijde, Groningen, The Netherlands Printed by: Ponsen & Looijen, Wageningen, The Netherlands **RIJKSUNIVERSITEIT GRONINGEN** 

# Presentation and early detection of posttransplant lymphoproliferative disorder after solid organ transplantation

Proefschrift

ter verkrijging van het doctoraat in de Medische Wetenschappen aan de Rijksuniversiteit Groningen op gezag van de Rector Magnificus, dr. F. Zwarts, in het openbaar te verdedigen op woensdag 18 april 2007 om 16.15 uur

door

# Nicolaas Arjen Bakker

geboren op 26 mei 1982 te Rotterdam

Promotores:	Mw. prof. dr. J.C. Kluin-Nelemans prof. dr. C.G.M. Kallenberg
Copromotor:	Dr. G.W. van Imhoff
Beoordelingscommissie:	prof. dr. J.J. Cornelissen prof. dr. W. Timens prof. dr. J.C. Wilschut

voor mijn ouders

Paranimfen:

Lieuwe Piers Okke Lambers Heerspink

## Content:

1.	Introduction and scope of the thesis Transplant International 2007; 3: 207-218	9
2.	Early onset posttransplant lymphoproliferative disease is associated with allograft localisation <i>Clinical Transplantation 2005; 19: 327-34.</i>	27
3a.	HLA antigens and post renal transplant lymphoproliferative disease: HLA-B matching is critical	43
3b.	Transplantation 2005; 80: 595-99. HLA matching and posttransplant lymphoproliferative disease after lung transplantation (letter to the editor) Transplantation 2005; 80: 1134-35.	55
4.	Posttransplant lymphoproliferative disease visualisation by FDG-PET compared with conventional diagnostic methods: improved detection of extranodal localisations and response monitoring Partly published: American Journal of Transplantation 2006; 6: 1984-85.	59
5.	Quantification of Epstein-Barr virus-DNA load in lung transplant recipients: a comparison of plasma versus whole blood Submitted	75
6.	Epstein-Barr virus-DNA load monitoring late after lung transplantation: a surrogate marker of the degree of immunosuppression and a safe guide to reduce immunosuppression Transplantation; in press	85
7.	Summary, discussion and future directions	101
	Nederlandse samenvatting	111
	Dankwoord	119
	List of publications	123

# CHAPTER

# General introduction and scope of the thesis

NA Bakker<sup>1</sup> GW van Imhoff<sup>1</sup> EAM Verschuuren<sup>2</sup> WJ van Son<sup>3</sup>

Department of Haematology<sup>1</sup>, Pulmonary Diseases<sup>2</sup>, Nephrology<sup>3</sup>, Pathology and Laboratory Medicine<sup>4</sup>, University Medical Centre Groningen, University of Groningen, The Netherlands

Partly published as: Presentation and early detection of posttransplant lymphoproliferative disorder after solid organ transplantation (review).

Transplant International; 2007; 3: 207