University of Groningen

Importance of molecular diagnostic of viral infections in renal transplant recipients

Rurenga-Gard, Lilli

DOI:
[10.33612/diss.92267443](https://doi.org/10.33612/diss.92267443)

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:
2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
Rurenga-Gard, L. (2019). *Importance of molecular diagnostic of viral infections in renal transplant recipients*. [Thesis fully internal (DIV), University of Groningen]. Rijksuniversiteit Groningen.
<https://doi.org/10.33612/diss.92267443>

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/taverne-amendment>.

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.

Importance of molecular diagnostic of viral infections in renal transplant recipients

Lilli Gard

Colofon

Importance of molecular diagnostic of viral infections in renal transplant recipients,

L. Gard

ISBN: 978-94-028-1593-1

Copyright © 2019 Lilli Gard

All rights reserved. No part of this thesis may be reproduced, stored or transmitted in any way or by any means without the prior permission of the author, or when applicable, of the publishers of the scientific papers.

Cover layout by Lilli Gard, inspired by Fritz Gard. Stockfoto ID: 511064444

Layout and design by Anna Bleeker, persoonlijkproefschrift.nl.

Printed by Ipskamp Printing, proefschriften.net

Financial support for the publication of this thesis was kindly provided by the University Medical Center Gronigen and Graduate School of Medical Sciences.

rijksuniversiteit
 groningen

Importance of molecular diagnostic of viral infections in renal transplant recipients

Proefschrift

ter verkrijging van de graad van doctor aan de
Rijksuniversiteit Groningen
op gezag van de
rector magnificus prof. dr. C. Wijmenga
en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op

woensdag 4 september 2019 om 14.30 uur

door

Lilli Gard

geboren op 29 november 1981
te Hamburg, Duitsland

Promotores

Prof. dr. H.G.M. Niesters

Prof. dr. W.J. van Son

Copromoteres

Dr. A. Riezebos-Brilman

Dr. J.S. Sanders

Beoordelingscommissie

Prof dr A.C.M. Kroes, UMC Leiden

Prof.dr. T van der Werf, UMCG

Prof.dr. S. Bakker, UMCG

TABLE OF CONTENTS

Chapter 1	General Introduction	8
Chapter 2	A real time genotyping PCR assay for polyomavirus BK <i>Journal virological methods 2015 Sep 1;221:51-6</i>	28
Chapter 3	Longitudinal monitoring of BKPyV miRNA levels in renal transplant recipients with BKPyV related pathology reflects viral DNA levels and remains high in viremia patients after clearance of viral DNA. <i>Manuscript in preparation</i>	44
Chapter 4	A delicate balance between rejection and BK polyomavirus associated nephropathy; a retrospective cohort study in renal transplant recipients. <i>PLoS One 2017 Jun 13;12(6):e0178801</i>	60
Chapter 5	Incidence and outcome of BK polyomavirus infection in a multicenter randomized controlled trial with renal transplant patients receiving cyclosporine- mycophenolate sodium- or everolimus-based low-dose immunosuppressive therapy. <i>Transplant Infectious Disease 2017 Jun ;19(3)</i>	84
Chapter 6	High Human Cytomegalovirus DNAemia Early Post-Transplantation Associates With Irreversible And Progressive Loss of Renal Function – a retrospective study Transplant <i>International 2017 Aug;30(8): 817-826</i>	104
Chapter 7	Relevance of EBV load monitoring in renal transplant recipients; a retrospective cohort study <i>Manuscript submitted for publication</i>	126
Chapter 8	Summary, discussion and future perspectives	144
Chapter 9	Nederlandse samenvatting	160
Chapter 10	Deutsche Zusammenfassung	170
Chapter 11	Dankwoord	180
Chapter 12	Curriculum vitae	184