

Transplantation of cultured corneal endothelial cells: Towards clinical application

Spinozzi D.

Citation

Transplantation of cultured corneal endothelial cells: Towards clinical application. (2020, November 17). Transplantation of cultured corneal endothelial cells: Towards clinical application. Retrieved from https://hdl.handle.net/1887/138017

Version: Publisher's Version

License: License agreement concerning inclusion of doctoral thesis in the

Institutional Repository of the University of Leiden

Downloaded from: https://hdl.handle.net/1887/138017

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle http://hdl.handle.net/1887/138017 holds various files of this Leiden University dissertation.

Author: Spinozzi, D.

Title: Transplantation of cultured corneal endothelial cells: Towards clinical application

Issue date: 2020-11-17

TRANSPLANTATION OF CULTURED CORNEAL ENDOTHELIAL CELLS: TOWARDS CLINICAL APPLICATION

Daniele Spinozzi

Transplantation of cultured corneal endothelial cells: towards clinical application

Daniele Spinozzi

Leiden University Medical Center, Leiden, The Netherlands

Netherlands Institute for Innovative Ocular Surgery, Rotterdam, The Netherlands

ISBN: 978-94-6423-027-7

Layout & Cover: Daniele Spinozzi

Printing: Proefschriftmaken www.proefschriftmaken.nl

© 2020, Daniele Spinozzi. Copyright of the published material in chapters 2-7 lies with the publisher of the journal listed at the beginning of each chapter. All rights reserved. No part of this thesis may be reprinted, reproduced or utilized in any form by electronic, mechanical, or other means now known or hereafter invented, including photocopying and recording in any information storage or retrieval system without previous written permission from the author.

TRANSPLANTATION OF CULTURED CORNEAL ENDOTHELIAL CELLS: TOWARDS CLINICAL APPLICATION

Proefschrift

ter verkrijging van de graad van Doctor aan de Universiteit Leiden, op gezag van Rector Magnificus prof.mr. C.J.J.M. Stolker, volgens besluit van het College voor Promoties te verdedigen op dinsdag 17 november 2020 klokke 13.45 uur

door

Daniele Spinozzi

geboren te Giulianova, Italië

in 1990

Promotor:

Prof. Dr. M.J. Jager

Co-promotors:

Dr. G.R.J. Melles, Netherlands Institute for Innovative Ocular Surgery, The Netherlands

Dr. S. Oellerich, Netherlands Institute for Innovative Ocular Surgery, The Netherlands

Leden Promotiecommissie

Prof. J. Hjørtdal, University of Aarhus, Denmark

Dr. S. Ní Dhubhghaill, University of Antwerp, Belgium

Dr. Y.Y. Cheng

The studies described in this thesis were performed at the Netherlands Institute for Innovative Ocular Surgery, Rotterdam, The Netherlands.

Publication of this thesis was supported by:

European Union's Horizon 2020 research and innovation programme (grant number 667400 – ARREST BLINDNESS Consortium);

Stichting Leids Oogheelkundig Ondersteuningsfonds (LOOF).

TABLE OF CONTENTS

Chapter 1	Introduction and outline of the thesis	7				
Chapter 2	New developments targeting corneal endothelial cell replacement. Review. Submitted for publication.	27				
Chapter 3	Improving the success rate of human corneal endothelial cell cultures from single donor corneas with stabilization medium. Cell and Tissue Banking 2018; 19(1): 9-17.					
Chapter 4	Effect of GMP-compliant collagenase on <i>in vitro</i> isolation 10 and expansion of human corneal endothelial cells. Article in preparation.					
Chapter 5	Evaluation of the Suitability of Biocompatible Carriers as 1 Artificial Transplants Using Cultured Porcine Corneal Endothelial Cells. Current Eye Research 2019; 44(3): 243-249.					
Chapter 6	In vitro Evaluation and Transplantation of Human Corneal Endothelial Cells Cultured on Biocompatible Carriers. Cell Transplantation 2020; 29: 963689720923577.					
Chapter 7	Göttingen Minipig is not a Suitable Animal Model for <i>in Vivo</i> Testing Tissue-Engineered Corneal Endothelial Cell-Carrier Sheets and for Endothelial Keratoplasty. <i>Current Eye Research 2020; 45(8): 945-949.</i>					
Chapter 8	Discussion and Summary	187				
Chapter 9	Nederlandse samenvatting (Dutch summary)	211				
Appendices	List of publications Curriculum vitae Acknowledgements	234 236 238				