



Universiteit
Leiden
The Netherlands

The natural history of human atherosclerosis : a histopathological approach

Dijk, R.A. van

Citation

Dijk, R. A. van. (2017, May 18). *The natural history of human atherosclerosis : a histopathological approach*. Retrieved from <https://hdl.handle.net/1887/48859>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/48859>

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

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/48859> holds various files of this Leiden University dissertation

Author: Dijk, Rogier A. van

Title: The natural history of human atherosclerosis : a histopathological approach

Issue Date: 2017-05-18

**THE NATURAL HISTORY OF HUMAN
ATHEROSCLEROSIS**

A HISTOPATHOLOGICAL APPROACH

Rogier A. van Dijk

Cover design: Mark Limburg, Amstelveen
Printed by: Ipskamp Printing

The Natural History of Human Atherosclerosis; A Histopathological Approach
The Netherlands 2017.
© 2017 R.A. van Dijk, The Netherlands
ISBN: 978-94-028-0620-5

THE NATURAL HISTORY OF HUMAN ATHEROSCLEROSIS

A HISTOPATHOLOGICAL APPROACH

Proefschrift

Ter verkrijging van
de graad van Doctor aan de Universiteit Leiden
op gezag van de Rector Magnificus Prof. Mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op donderdag 18 mei 2017 klokke 15.00 uur

door

Rogier Alexander van Dijk

Geboren te Alphen a/d Rijn in 1979

PROMOTOR:

Prof. Dr. J.F. Hamming

COPROMOTORES:

Dr. J.H.N. Lindeman

Dr. A.F.M. Schaapherder

Leden van de promotiecommissie:

Prof. Dr. J.W. Jukema

Prof. Dr. M. van Eck (LACDR, Leiden)

Prof. Dr. A.C. van der Wal (Academisch Medisch Centrum, Amsterdam)

Dr. R. Kleemann (TNO, Leiden)

Primary Funding Source: N/A.

Financial support by the Dutch Heart Foundation for the publication of this thesis is gratefully acknowledged.

Printing of this thesis is further financially supported by Guerbet Nederland B.V., Bayer B.V., Chipsoft and Sai Registeraccountants.

CONTENTS

Chapter 1	7
General Introduction and outline of the thesis	
Chapter 2	19
The natural history of aortic atherosclerosis: a systemic histopathological evaluation of the peri-renal region	
Chapter 3	41
Histological evaluation disqualifies IMT and calcification scores as surrogates for grading coronary and aortic atherosclerosis	
Chapter 4	59
A universal lesion classification for human and murine atherosclerosis	
Chapter 5	81
Differential expression of oxidation-specific epitopes and apolipoprotein(a) in progressing and ruptured human coronary and carotid atherosclerotic lesions	
Chapter 6	113
A systematic evaluation of the cellular innate immune response during the process of human atherosclerosis	
Chapter 7	145
A change in inflammatory foot print precedes plaque instability: A systematic evaluation of cellular aspects of the adaptive immune response in human atherosclerosis	
Chapter 8	171
Activator protein-1 (AP-1) signalling in human atherosclerosis: results of a systematic evaluation and intervention study	
Chapter 9	189
Visualizing TGF- β and BMP signaling in human atherosclerosis: a histological evaluation based on Smad activation	
Chapter 10	207
Summary and Future Perspectives	
Appendices	
Nederlandse samenvatting	221
Dankwoord	233
List of Publications	235
<i>Curriculum Vitae</i>	237

