

Differences and similarities of autoantibody-positive and autoantibody-negative rheumatoid arthritis during the disease course: on our way to personalized medicine Matthijssen, X.M.E.

Citation

Matthijssen, X. M. E. (2022, June 21). *Differences and similarities of autoantibody-positive and autoantibody-negative rheumatoid arthritis during the disease course: on our way to personalized medicine*. Retrieved from https://hdl.handle.net/1887/3421332

| Version: | Publisher's Version |
|------------------|-----------------------------------------------------------------------------------------------------------------------------|
| License: | Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden |
| Downloaded from: | https://hdl.handle.net/1887/3421332 |

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

Differences and similarities of autoantibodypositive and autoantibody-negative rheumatoid arthritis during the disease course: on our way to personalized medicine

Xanthe Matthijssen

Differences and similarities of autoantibody-positive and autoantibody-negative rheumatoid arthritis during the disease course: on our way to personalized medicine

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit Leiden, op gezag van de rector magnificus prof. dr. ir. H. Bijl volgens besluit van het college voor promoties te verdedigen op dinsdag 21 juni klokke 15:00 uur door

The studies described in this thesis were performed at the Department of Rheumatology at the Leiden University Medical Centre, Leiden, the Netherlands.

ISBN/EAN: 978-94-6419-510-1 The printing of this thesis was financially supported by the Leiden University Library. Cover design: J.A. Kamp and X.M.E. Matthijssen Thesis layout: Ilse Modder, www.ilsemodder.nl Printing: Gildeprint, Enschede, the Netherlands



Copyright © by X.M.E. Matthijssen All rights reserved. No parts of this book may be reproduced, stored in a retrieval system or transmitted in any form or by any means, without permission of the author. Xanthe Marijn Edmée Matthijssen geboren te Rotterdam in 1992

| Promotores | prof. dr. A.H.M. van der Helm - van Mil |
|-------------------------|-----------------------------------------------------|
| | prof. dr. T.W.J. Huizinga |
| Leden promotiecommissie | prof. dr. D.M.F.M. van der Heijde |
| | prof. dr. S. le Cessie |
| | prof. dr. R.F. van Vollenhoven (Universiteit van |
| | Amsterdam) |
| | dr. P.H.P. de Jong (Erasmus Universiteit Rotterdam) |

CONTENTS

| Chapter 1: | Introduction | 9 |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| PRE-ARTHRITIS | | 25 |
| Chapter 2: | A search to the target tissue in which RA-specific inflammation starts: a detailed MRI study to improve identification of RA-specific features in the phase of clinically suspect arthralgia | 27 |
| EARLY ARTHRITIS | | 47 |
| Chapter 3: | Tenosynovitis has a high sensitivity for early ACPA-positive and ACPA-negative RA: a large cross-sectional MRI study | 49 |
| Chapter 4: | The increasing incidence of autoantibody negative RA is replicated and is partly explained by an aging population | 67 |
| Chapter 5: | The value of imaging detected joint inflammation in explaining fatigue in rheumatoid arthritis at diagnosis and during the disease course – a large MRI study | 73 |
| Chapter 6: | Differing time orders of inflammation decrease between ACPA-subsets in RA-patients suggest differences in underlying inflammatory pathways | 91 |
| LONG-TERM OUTCOMES | | 107 |
| Chapter 7: | Enhanced treatment strategies and distinct disease outcomes among autoantibody-positive and -negative rheumatoid arthritis patients over 25 years: a longitudinal cohort study in the Netherlands | 109 |
| Chapter 8: | Early intensive treatment normalizes excess mortality in ACPA-negative RA but not in ACPA-positive RA | 135 |
| Chapter 9: | Summary and discussion | 141 |
| Chapter 10: | Nederlandse samenvatting | 160 |
| | Curriculum Vitae | 166 |
| | List of publications | 168 |
| | Dankwoord | 172 |