

University of Groningen

Vasopressin in chronic kidney disease, in particular ADPKD

Zittema, Debbie

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:

2016

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

Citation for published version (APA):

Zittema, D. (2016). Vasopressin in chronic kidney disease, in particular ADPKD: Causal factor or innocent bystander? [Groningen]: Rijksuniversiteit Groningen

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).

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.

Vasopressin in chronic kidney disease, in particular ADPKD

Causal factor or innocent bystander?

Debbie Zitte

Debbie Zitteema

Vasopressin in chronic kidney disease, in particular ADPKD. Causal factor or innocent bystander?

Dissertation University of Groningen, The Netherlands

Financial support for the publication of this thesis was kindly provided by the Graduate School of Medical Sciences, University of Groningen, Dutch Kidney Foundation, Astellas Pharma B.V. and ABN-AMRO.

Cover design and lay out: Douwe Oppewal

*Printed by: *studio*

ISBN: 978-90-367-9025-3 (printed version)

ISBN: 978-90-367-9024-6 (digital version)

© D. Zitteema 2016

All rights reserved. No part of this publication may be reproduced, copied, modified, stored in a retrieval system or transmitted without the prior written consent of the author.



rijksuniversiteit
 groningen

Vasopressin in chronic kidney disease, in particular ADPKD

Causal factor or innocent bystander?

Proefschrift

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

De openbare verdediging zal plaatsvinden op

woensdag 2 november 2016 om 14.30 uur

door

Debbie Zittema

geboren op 14 april 1988

te Amstelveen

Promotores

Prof. dr. R.T. Gansevoort

Prof. dr. C.A.J.M. Gaillard

Copromotor

Dr. E. Meijer

Beoordelingscommissie

Prof. dr. B.H.R. Wolffenbuttel

Prof. dr. P.M.T. Deen

Prof. dr. H. Birn

Paranimfen

Niek F. Casteleijn

Joost Zitteba

Contents

Chapter 1	Introduction to vasopressin and aims of this thesis	9
Chapter 2	Autosomal Dominant Polycystic Kidney Disease (ADPKD), perhaps the most prevalent, least acknowledged kidney disease <i>Capita Selecta Nefrologie 2013</i>	21
Part 1	Copeptin as surrogate for vasopressin	
Chapter 3	Comparison of ex vivo stability of copeptin and vasopressin <i>Clinical Chemistry and Laboratory Medicine 2016</i>	43
Chapter 4	Kidney function and plasma copeptin levels in healthy kidney donors and ADPKD patients <i>Clinical Journal of the American Society of Nephrology 2014</i>	61
Chapter 5	The effect of renal and hemodialysis clearance on plasma vasopressin and copeptin levels <i>Submitted</i>	81
Part 2	Urine concentrating capacity and vasopressin in chronic kidney disease	
Chapter 6	Vasopressin, copeptin and renal concentrating capacity in patients with ADPKD without renal impairment <i>Clinical Journal of the American Society of Nephrology 2010</i>	105
Chapter 7	Vasopressin, copeptin and renal concentrating capacity in ADPKD and IgA nephropathy patients with renal impairment <i>Submitted</i>	121
Part 3	Vasopressin as causal factor in chronic kidney disease progression	
Chapter 8:	Copeptin is associated with disease severity and kidney function decline in IgA nephropathy <i>Submitted</i>	143
Chapter 9:	Copeptin, a surrogate marker for vasopressin, is associated with kidney function decline in subjects with ADPKD <i>Nephrology Dialysis Transplantation 2012</i>	161
Chapter 10:	Dose titrated vasopressin V2 receptor antagonist improves renoprotection in a mouse model for ADPKD <i>American Journal of Nephrology 2016</i>	179
Chapter 11:	Urine and plasma osmolality in patients with ADPKD: reliable indicators of vasopressin activity and disease prognosis? <i>American Journal of Nephrology 2015</i>	199
Chapter 12:	Discussion: summary and future perspectives	217
	Nederlandse samenvatting en toekomstperspectief	231
	Dankwoord	241

