

University of Groningen

New imaging strategies in neuroendocrine tumors

van Asselt, Sophie

DOI:
[10.1016/j.gie.2014.09.037](https://doi.org/10.1016/j.gie.2014.09.037)

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:
2014

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

Citation for published version (APA):
van Asselt, S. (2014). *New imaging strategies in neuroendocrine tumors*. [S.l.]: s.n.
<https://doi.org/10.1016/j.gie.2014.09.037>

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.

New imaging strategies in neuroendocrine tumors

Sophie van Asselt

Financially support for printing of this thesis is kindly provided by:
The Endocrinology Fund, as part of the Ubbo Emmius Fund
Stichting Werkgroep Interne Oncologie
Graduate School for Drug Exploration (GUIDE)
Rijksuniversiteit Groningen
Dutch Cancer Society.

The research presented in this thesis was financially supported by a grant of the Dutch Cancer Society (RUG 2008-4188).

Cover and layout: Johan de Jong & Sophie van Asselt
Groningen, The Netherlands

Printed by: Ipskamp Drukkers
Enschede, The Netherlands

ISBN: 978-90-367-6870-2

New imaging strategies in neuroendocrine tumors.
© 2014, Sophie van Asselt, Groningen, The Netherlands.

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without prior written permission of the author.



rijksuniversiteit
groningen

New imaging strategies in neuroendocrine tumors

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
maandag 14 april 2014 om 12.45 uur

door

Sophie Josephien van Asselt

geboren op 4 juli 1984
te Hoogeveen

Promotores:

Prof. dr. T.P. Links

Prof. dr. E.G.E. de Vries

Copromotores:

Dr. A.H. Brouwers

Dr. H.M. van Dullemen

Beoordelingscommissie:

Prof. dr. B.H.R. Wolffenbuttel

Prof. dr. R.A.J.O. Dierckx

Prof. dr. C.J. Lips

Contents

Chapter 1	General introduction.	7
Chapter 2	Pancreatic cyst development: insights from von Hippel-Lindau disease.	15
Chapter 3	Endoscopic ultrasound is superior compared to standard imaging for detection of pancreatic solid lesions in von Hippel-Lindau patients.	37
Chapter 4	Endoscopic ultrasound is superior for detection of pancreatic lesions compared to standard imaging in Multiple Endocrine Neoplasia type 1 patients.	55
Chapter 5	^{89}Zr -bevacizumab PET visualizes disease manifestations in patients with von Hippel-Lindau disease.	77
Chapter 6	Everolimus reduces ^{89}Zr -bevacizumab tumor uptake in patients with neuroendocrine tumors.	99
Chapter 7	Summary and future perspectives.	121
Chapter 8	Summary in Dutch	133
	Dankwoord	141
	Color figures	147

Paranimfen:

K.Y. Heida

A. van der Heide