



Universiteit
Leiden
The Netherlands

Treatment optimisation and pharmacogenetics of systemic and intraperitoneal chemotherapy in colorectal cancer

Hulshof, E.C.

Citation

Hulshof, E. C. (2023, May 31). *Treatment optimisation and pharmacogenetics of systemic and intraperitoneal chemotherapy in colorectal cancer*. Retrieved from <https://hdl.handle.net/1887/3619276>

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/1887/3619276>

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

**Treatment optimisation and
pharmacogenetics of systemic
and intraperitoneal chemotherapy
in colorectal cancer**

Emma Hulshof

The research presented in this thesis was performed at Leiden University Medical Center, Leiden, the Netherlands and at Catharina Hospital, Eindhoven, the Netherlands.

Financial support for the publication of this thesis was provided by Afdelingsfonds Klinische Farmacie & Toxicologie and Uitgeverij Jaap.

Cover design Myriam Knol
Layout Renate Siebes | Proefschrift.nu
Printed by Proefschriftmaken.nl | De Bilt
ISBN 978-94-6469-332-4

© 2023 Emma Hulshof

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage or retrieval, without permission in writing from the author.

Treatment optimisation and pharmacogenetics of systemic and intraperitoneal chemotherapy in colorectal cancer

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof. dr. ir. H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op woensdag 31 mei 2023
klokke 11.15 uur

door

Emma Claire Hulshof

geboren te Tubbergen
in 1989

Promotores

prof. dr. H.J. Guchelaar

prof. dr. A.J. Gelderblom

Copromotor

dr. M.J. Deenen

Promotiecommissie

prof. dr. C.J. van Asperen

prof. dr. N. van Erp, Radboudumc Nijmegen

dr. G.J. Liefers

prof. dr. A.H.J. Mathijssen, Erasmus MC Rotterdam

CONTENTS

Chapter 1	General introduction	7
PART I: Implementation of <i>UGT1A1</i> genotype-guided dosing of irinotecan		
Chapter 2	Pre-therapeutic <i>UGT1A1</i> genotyping to reduce the risk of irinotecan-induced severe toxicity: Ready for prime time European Journal of Cancer 2020;141:9–20	17
Chapter 3	Dutch Pharmacogenetics Working Group (DPWG) guideline for the gene–drug interaction between <i>UGT1A1</i> and irinotecan European Journal of Human Genetics 2022; Nov. 28	43
Chapter 4	<i>UGT1A1</i> genotype-guided dosing of irinotecan: A prospective safety and cost analysis in poor metaboliser patients European Journal of Cancer 2022;162:148–57	125
PART II: Discovery and validation of genetic biomarkers for hyperthermic intraperitoneal chemotherapy (HIPEC)		
Chapter 5	Genetic variants in DNA repair pathways as potential biomarkers in predicting treatment outcome of intraperitoneal chemotherapy in patients with colorectal peritoneal metastasis: A systematic review Frontiers in Pharmacology 2020;11:577968	159
Chapter 6	Genome-wide association study for predictors of survival after cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in patients with colorectal peritoneal metastases In preparation	209
Chapter 7	Identification of pharmacogenetic biomarkers for efficacy of cytoreductive surgery plus hyperthermic intraperitoneal mitomycin C in patients with colorectal peritoneal metastases European Journal of Surgical Oncology 2020;46(10):1925–30	229
Chapter 8	General discussion	247
	Summary	255
	Samenvatting	263
	Dankwoord	271
	Curriculum Vitae	277