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Non invasive individual monitoring of tumor
response to anti-cancer treatments:
Early detection of radio- and chemo-induced
cell death by magnetic resonance imaging.

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Thesis presented in fulfillment of the requirements for the degree of
Doctor of Pharmaceutical and Biomedical Sciences.

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October 2010

Acknowledgements

First of all, I would like to thank my supervisor Bernard Gallez, head of the Biomedical Magnetic Resonance Research Group (REMA), who welcomed me in his laboratory and gave me the opportunity to do this doctorate. I am grateful that he furthered me, believed in me and pushed me to give oral presentations. He always supported me and was approachable for my questions and requests. I know that this is not to be taken as granted. Special thanks also go to the co-director of my thesis, Bénédicte Jordan, who always succeeded in building me up in difficult moments and found the right words to motivate me again. Thank you for your support and for boosting my confidence.

I would like to thank the members of the jury for reading my thesis and for their useful and constructive comments: Kevin Brindle (Department of Biochemistry, University of Cambridge, UK), Robert Muller (NMR and Molecular Imaging Laboratory, University of Mons, Belgium), Véronique Prétat (FARG, UCL), Marie-Paule Mingeot (FACM, UCL), Olivier Feron (FATH, UCL) and Vincent Grégoire (IMRE, UCL).

Of course, it would have been impossible to finish this piece of work without our numerous collaborators. First of all, thanks go to the group of Robert Muller from the University of Mons (especially to Sébastien Boutry and Sophie Laurent) for developing the new biomarkers. I also want to express my thanks to Olivier Feron and the FATH unit (especially Caroline Bouzin) for allowing histological correlation, to the IMRE unit for their irradiator and to the Biomedical NMR Unit (MoSAIC/KU Leuven) of Uwe Himmelreich, who offered me to use their MR scanner - I will never forget these night shifts.

I would also like to express my gratitude to the Télévie Grant for financial support during these 4 years of thesis.

Now I would like to address some personal words to the members of the REMA group. I really appreciated the friendly atmosphere in our laboratory. I would like to say thank you to our post-doc Julie, not only for her programming skills in MatLab and her knowledge about MRI, but also for her patience, her kindness and her strange conversation topics at lunchtime. Thanks also to our other post-doc Philippe, the master of the “who is who” at UCL, who is always willing to help at the smallest problem. During these years, I had the chance to work with really nice colleagues: my office mates Caro and An-Ca, my former flat mate and sms champion Oussama, our clown Quentin, my previous fellow student in pharmacy Linda, our living encyclopedia Pierre and conspiracy theorist Michaël, and not to forget the our students Valérie, Florence, Géraldine and Julie and the previous lab members Nicolas, Mustapha, Nelson and Emilia. It was a pleasure to work with each one of you and I will not forget the time I spent with you.

A big thank you goes to Alex, my favorite translator, who accepted to proofread this manuscript in such a short time.

Last but not least special thanks go to my parents, my family and to Damien, who supported me for such a long time, and to whom I dedicate this work.

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Abbreviation list

5-FU: 5-fluorouracil	FLICA: fluorochrome-labeled inhibitors of
ADC: apparent diffusion coefficient	caspases
$\alpha_v\beta_3$ = alpha(v)beta(3): vitronectin receptor	FLT: 3'-deoxy-3'-F-fluorothymidine
AnxV = anxA5: annexin V	FOV: field of view
ATP: adenosine triphosphate	FsaII: fibrosarcoma II
CA: contrast agent	Gd: gadolinium
Cho: choline	GPC: glycerophosphocholine
ChoK: choline kinase	GPE: glycerophosphoethanolamine
CIE: chemotherapy-induced enteropathy	GIST: gastrointestinal stromal tumor
CP: cyclophosphamide	GLUT: glucose transporter
Cr: creatine	H&E: hematoxylin and eosin
CT: computed tomography	HER2/neu = ErbB-2: human epidermal
CTL: control	growth factor receptor 2
DAPI: 4,6-diamidino-2-phenylindole	HIF: hypoxia-inducible factor
DCE: dynamic contrast-enhanced	HUVEC: human umbilical vein endothelial
DDC: didansyl cystine	cell
DEVD: Asp-Glu-Val-Asp peptide	HYNIC: hydrazino nicotinamide
DNA: deoxyribonucleic acid	IC ₅₀ : half maximal inhibitory concentration
DWI=DW-MRI: diffusion-weighted	ICAM: intercellular adhesion molecule
imaging	IL: interleukin
ECG: electrocardiogram	i.m.: intramuscularly
E-selectin: endothelial selectin	i.v.: intravenously
ELISA: enzyme-linked immunosorbent	L-selectin: leukocyte selectin
assay	Lac: lactate
EPR: electron paramagnetic resonance	LD ₅₀ : lethal dose that kills 50% of animals
ET: etoposide	LPS: lipopolysaccharide
FCA: Freund's complete adjuvant	MatLab: Matrix Laboratory
FCH: fluoro(methyl)choline	MET: methyl-methionine
FDG: fluoro-2-deoxy-D-glucose	ML-9: butyl-2-methyl-malonic acid
Fe: iron	Mn: manganese
FITC: fluorescein isothiocyanate	MRI: magnetic resonance imaging
FLASH: fast low angle shot	MRS: magnetic resonance spectroscopy

M_S: specific magnetization
MW: molecular weight
NACA: necrosis-avid contrast agent
NMR: nuclear magnetic resonance
NMRD: nuclear magnetic resonance dispersion
NTP: nucleotide triphosphate
OMT: O-methyl-L-tyrosine
P-selectin: platelet selectin
PARP: poly-ADP-ribose polymerase
PC: phosphocholine
PCr: phosphocreatine
PCS: photon correlation spectroscopy
PDE: phosphodiester
PE: phosphoethanolamine
PEG: polyethylene glycol
PET: positron emission tomography
Pi: inorganic phosphate
PME: phosphomonoester
ppm: parts per million
PRESS: point-resolved spectroscopy
PS: phosphatidylserine
PSA: prostate specific antigen
PtdC: phosphatidylcholine
PtdE: phosphatidylethanolamine
r: crystal radius
R₁: longitudinal relaxation rate
r₁: longitudinal relaxivity
R₂: transversal relaxation rate
r₂: transversal relaxivity
RARE: rapid acquisition with relaxation enhancement

RECIST: Response Evaluation Criteria In Solid Tumors
RES: reticulo-endothelial system
RGD: Arg-Gly-Asp peptide
ROI: region of interest
SEM = SE: standard error (of the mean)
SI: signal intensity
sLe^x: sialyl Lewis X
SM: sphingomyelin
SPECT: single photon emission computed tomography
SPIO: superparamagnetic iron oxide particle
T₁: longitudinal relaxation time
T₂: transversal relaxation time
tCho: total choline
TE: echo time
TK₁: thymidine kinase 1
TKI: tyrosine kinase inhibitor
TLT: transplantable liver tumor
TNF α : tumor necrosis factor α
TR: repetition time
TUNEL: terminal deoxynucleotidyl transferase dUTP nick end labeling
MUC-1: mucin-1 antigen
USPIO: ultrasmall iron oxide particle
VEGF: vascular endothelial growth factor
VSMC: vascular smooth muscle cell
WHO: World Health Organisation