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Out-of-hospital cardiac arrest

A pharmacoepidemiological approach

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Appendices

LIST OF PUBLICATIONS

Included in this thesis (in italics not yet accepted)

Eroglu TE, Mohr GH, Blom MT, Verkerk AO, Souverein PC, Torp-Pedersen C, Folke F, Wissenberg M, van den Brink L, Davis RP, de Boer A, Gislason GH, Tan HL. Differential effects on out-of-hospital cardiac arrest of dihydropyridines: real-world data from population-based cohorts across two European countries. *Eur Heart J Cardiovasc Pharmacother*. 2020 Nov 1;6(6):347-355.

Barcella CA*, Eroglu TE*, Hulleman M, Granfeldt A, Souverein PC, Mohr GH, Koster RW, Wissenberg M, de Boer A, Torp-Pedersen C, Folke F, Blom MT, Gislason GH, Tan HL, for the ESCAPE-NET investigators. Association of beta-blockers and first-registered heart rhythm in out-of-hospital cardiac arrest: real-world data from population-based cohorts across two European countries. *Europace*. 2020 Aug; 22(8): 1206–1215.

* both authors contributed equally

Eroglu TE*, Jia L*, Blom MT, Verkerk AO, Devalla HD, Boink GJJ, Souverein PC, de Boer A, Tan HL. Sulfonylurea antidiabetics are associated with lower risk of out-of-hospital cardiac arrest: Real-world data from a population-based study. *Br J Clin Pharmacol*. 2021 Sep;87(9):3588-3598.

* both authors contributed equally

Eroglu TE, Barcella CA, Blom MT, Mohr GH, Souverein PC, Torp-Pedersen C, Folke F, Wissenberg M, de Boer A, Schwartz PJ, Gislason GH, Tan HL, for the ESCAPE-NET investigators. Out-of-hospital cardiac arrest and differential risk of cardiac and non-cardiac QT-prolonging drugs in 37,000 cases. *Br J Clin Pharmacol*. 2021; 1- 10.

Eroglu TE, Blom MT, Souverein PC, de Boer A, Tan HL. Multiple categories of non-cardiac QT-prolonging drugs are associated with increased risk of out-of-hospital cardiac arrest: real-world data from a population-based study. Accepted *Europace* September 2021.

Eroglu TE, Blom MT, Souverein PC, de Boer A, Tan HL. Non-cardiac depolarization-blocking drugs are associated with increased risk of out-of-hospital cardiac arrest in the community. Submitted British Journal of Clinical Pharmacology.

Not included in this thesis (in italics not yet accepted)

Eroglu TE, Barcella CA, Blom MT, Souverein PC, Mohr GH, Torp-Pedersen C, Folke F, Wissenberg M, de Boer A, Gislason GH, Tan HT, for the ESCAPE-NET Investigators. Opioid use

is associated with increased out-of-hospital cardiac arrest risk among 40,000-cases across two countries. Submitted Pharmacoeconomics and Drug Safety April 2021.

Eroglu TE, Blom MT, Souverein PC, Yasmina A, de Boer A, Tan HL, for the ESCAPE-NET investigators. Acetylsalicylic acid use is associated with reduced risk of out-of-hospital cardiac arrest in the general population: real-world data from a population-based study. Submitted PLOS ONE December 2020.

Eroglu TE, Barcella CA, Gerds TA, Kessing LV, Zylyftari N, Mohr GH, Kragholm K, Polcwiartek C, Wissenberg M, Folke F, Tan HL, Torp-Pedersen C, Gislason GH. Risk of out-of-hospital cardiac arrest in antidepressant drug users. Submitted EP Europace May 2021.

van Dongen LH, de Goede P, Moeller S, Eroglu TE, Folke F, Gislason G, Blom MT, Elders PJM, Torp-Pedersen C, Tan HL. Temporal variation in out-of-hospital cardiac arrest occurrence in individuals with or without diabetes. To be submitted to Resuscitation.

The COVID-19 pandemic and out-of-hospital cardiac arrest with maintained first response system. Oving I, Stieglis, de Graaf C, Ekkel M, Verkaik B, van Dongen L, Eroglu TE, van Schuppen H, Smits R; Koster RW, Tan HL, Blom MT. To be submitted to Resuscitation.

Electrophysiologic effects of carbamazepine on cardiac myocytes: a possible mechanism of sudden cardiac death in epilepsy patients. Jia L, Eroglu TE*, Verkerk AO, Tan HL. In progress.
* both authors contributed equally*

Antiepileptic drug and the risk of out-of-hospital cardiac arrest in the general population. Eroglu TE, Gerds TA, Folke F, Tan HL, Torp-Pederson C, Gislason G. In Progress.

Sodium-glucose cotransporter 2 inhibitors and sudden cardiac arrest. Eroglu TE, Coronel R, Blom MT, Tan HL, de Boer A, Souverein PC. To be submitted to British Journal of Clinical Pharmacology.

Multi-cohort external validation of TOR guidelines and the contribution of medical history in predicting out-of-hospital cardiac arrest survival: The ESCAPE-NET project. In Progress.

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For all chapters:

All authors approved the final version that was submitted.

Chapter 2

Eroglu TE, Barcella CA, Blom MT, Mohr GH, Souverein PC, Torp-Pedersen C, Folke F, Wissenberg M, de Boer A, Schwartz PJ, Gislason GH, Tan HL, for the ESCAPE-NET investigators. Out-of-hospital cardiac arrest and differential risk of cardiac and non-cardiac QT-prolonging drugs in 37,000 cases. *Br J Clin Pharmacol*. 2021; 1- 10.

Talip Eroglu: conceived the study idea, designed the research, collected data, performed the statistical analyses for the Dutch registry, wrote the manuscript

Carlo Barcella: performed the statistical analyses for the Danish registry, reviewed the manuscript

Marieke Blom: reviewed the manuscript

Grimur Mohr: reviewed the manuscript

Patrick Souverein: worked up the original data to a data matrix ready for statistical analyses, reviewed the manuscript

Christian Torp-Pederson: reviewed the manuscript

Fredrik Folke: reviewed the manuscript

Mads Wissenberg: reviewed the manuscript

Anthonius de Boer: reviewed the manuscript

Peter Schwartz: reviewed the manuscript

Gunnar Gislason: reviewed the manuscript

Hanno Tan: conceived the study idea, reviewed the manuscript

Chapter 3

Eroglu TE, Blom MT, Souverein PC, de Boer A, Tan HL. Multiple categories of non-cardiac QT-prolonging drugs are associated with increased risk of out-of-hospital cardiac arrest: real-world data from a population-based study. Accepted Europe September 2021.

Talip Eroglu: conceived the study idea, designed the research, collected data, performed the statistical analyses, wrote the manuscript

Marieke Blom: reviewed the manuscript

Patrick Souverein: worked up the original data to a data matrix ready for statistical analyses, reviewed the manuscript

Anthonius de Boer: reviewed the manuscript

Hanno Tan: conceived the study idea, reviewed the manuscript

Chapter 4

Eroglu TE, Blom MT, Souverein PC, de Boer A, Tan HL. Non-cardiac depolarization-blocking drugs are associated with increased risk of out-of-hospital cardiac arrest in the community.

Talip Eroglu: conceived the study idea, designed the research, collected data, performed the statistical analyses, wrote the manuscript

Marieke Blom: designed the research, reviewed the manuscript

Patrick Souverein: worked up the original data to a data matrix ready for statistical analyses, designed the research, reviewed the manuscript

Anthוניus de Boer: designed the research, reviewed the manuscript

Hanno Tan: conceived the study idea, reviewed the manuscript

Chapter 5

Eroglu TE, Mohr GH, Blom MT, Verkerk AO, Souverein PC, Torp-Pedersen C, Folke F, Wissenberg M, van den Brink L, Davis RP, de Boer A, Gislason GH, Tan HL. Differential effects on out-of-hospital cardiac arrest of dihydropyridines: real-world data from population-based cohorts across two European countries. *Eur Heart J Cardiovasc Pharmacother.* 2020 Nov 1;6(6):347-355.

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Grimur Mohr: performed the statistical analyses for the Dutch registry, reviewed the manuscript

Marieke Blom: designed the research, reviewed the manuscript

Arie Verkerk: conducted the patch-clamp experiments, reviewed the manuscript

Patrick Souverein: worked up the original data to a data matrix ready for statistical analyses, designed the research, designed the research, reviewed the manuscript

Chirstian Torp-Pederson: reviewed the manuscript

Fredrik Folke: reviewed the manuscript

Mads Wissenberg: reviewed the manuscript

Letitia van den Brink: prepared the cells for the patch clamp experiments, reviewed the manuscript

Richard Davis: prepared the cells for the patch clamp experiments, reviewed the manuscript.

Anthוניus de Boer: designed the research, reviewed the manuscript

Gunnar Gislason: reviewed the manuscript

Hanno Tan: conceived the study idea, reviewed the manuscript

Chapter 6

Eroglu TE*, Jia L*, Blom MT, Verkerk AO, Devalla HD, Boink GJJ, Souverein PC, de Boer A, Tan HL. Sulfonylurea antidiabetics are associated with lower risk of out-of-hospital cardiac arrest: Real-world data from a population-based study. *Br J Clin Pharmacol*. 2021 Sep;87(9):3588-3598.

* both authors contributed equally

Talip Eroglu: conceived the study idea, designed the research, collected data, performed the statistical analyses, wrote the manuscript

Lixia Jia: conducted the patch-clamp experiments

Marieke Blom: designed the research, reviewed the manuscript

Arie Verkerk: designed the research, conducted the patch-clamp experiments, reviewed the manuscript

Harscha Devalla: reviewed the manuscript

Gerard Boink: reviewed the manuscript

Patrick Souverein: designed the research, worked up the original data to a data matrix ready for statistical analyses, reviewed the manuscript

Anthוניus de Boer: designed the research, reviewed the manuscript

Hanno Tan: conceived the study idea, reviewed the manuscript

Chapter 7

Barcella CA*, Eroglu TE*, Hulleman M, Granfeldt A, Souverein PC, Mohr GH, Koster RW, Wissenberg M, de Boer A, Torp-Pedersen C, Folke F, Blom MT, Gislason GH, Tan HL, for the ESCAPE-NET investigators. Association of beta-blockers and first-registered heart rhythm in out-of-hospital cardiac arrest: real-world data from population-based cohorts across two European countries. *Europace*. 2020 Aug; 22(8): 1206–1215.

* both authors contributed equally

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Talip Eroglu: conceived the study idea, designed the research, collected data, performed the statistical analyses for the Dutch registry, wrote the manuscript

Michiel Hulleman: conceived the study idea, designed the research, collected data, reviewed the manuscript

Asger Granfeldt: reviewed the manuscript

Patrick Souverein: worked up the original data to a data matrix ready for statistical analyses, reviewed the manuscript

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Anthonius de Boer: reviewed the manuscript

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Fredrik Folke: reviewed the manuscript

Marieke Blom: designed the research, reviewed the manuscript

Gunnar Gislason: reviewed the manuscript

Hanno Tan: reviewed the manuscript

PORTFOLIO

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Supervisors: Dr. H.L. Tan, Prof. dr. A. de Boer

Co-supervisors: Dr. P.C. Souverein, Dr. M.T. Blom

PhD period: September 2017 – November 2021

PHD TRAINING

YEAR ECTS

Courses

- Capita Selecta	2021	6
- Project Management	2021	0.6
- Master Thesis Master EBPIHC	2020	24
- Health Care System Evaluation	2020	7
- Health Economics	2020	6
- Clinimetrics	2020	9
- Advanced Biostatistics and Epidemiology	2019	8
- Systematic Review/Clinical Guidelines	2019	6
- Elementary Biostatistics	2019	9
- Basic Epidemiology and Evidence Based Practice: designs	2019	12
- Basic Epidemiology and Evidence Based Practice: concepts	2018	10
- Citation analysis and Impact Factors	2018	0.1
- Genetic Epidemiology	2018	1.1
- Scientific Writing in English	2018	1.5
- Basic Course Legislation and Organization for Clinical Researchers (BROK)	2018	1.5
- Practical Biostatistics	2018	1.4
- The AMC World of Science	2017	0.7

Presentations and congresses

- International Society for Pharmacoepidemiology (Poster Presentation)	2020	0.5
- European Heart Rhythm Association (Poster Presentation)	2019	0.5

Other meetings

- ESCAPE-NET meeting	2021	0.5
- ESCAPE-NET meeting	2020	0.5
- COSTA meeting	2019	0.5
- ESCAPE-NET meeting (oral presentation)	2019	0.5
- ESCAPE-NET meeting (oral presentation)	2018	0.5
- Masterclass Jacob Tfelt-Hansen (oral presentation)	2018	0.5

Supervision

Master thesis

- Meltem Ata	2019	2
- Mina Khalesi	2019	2
- Mükerrerem Gökçe	2018	2

Parameters of Esteem

Grant

- AMC Young Talent Fund	2020	
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ABOUT THE AUTHOR

Talip Eroglu was born in Rotterdam, the Netherlands, on February 21, 1991. In 2010 he graduated from the pre-university education (Atheneum, Hugo de Groot, Rotterdam). In the same year he moved to Utrecht to study Pharmacy at Utrecht University. In 2016, he obtained his Master's degree in Pharmacy. In 2017, he started his PhD project at the department of Experimental Cardiology at the AMC. In this project he focused on drug use and the risk of out-of-hospital cardiac arrest. During his PhD, he obtained a Master of Science degree in Evidence Based Practice in Health Care (clinical epidemiology) at the University of Amsterdam in 2020. During his PhD project, he received also a grant to continue his research and to explore his knowledge on cardiovascular epidemiology at the University of Copenhagen under the supervision of Professor Gunnar Gislason, where he did one year of his PhD.