Plan Overview

A Data Management Plan created using DMPonline

Title: INTERACTION BETWEEN VITAMIN K ANTAGONISTS AND COLCHICINE IN PATIENTS WITH CHRONIC CORONARY DISEASE

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Template: UMC Utrecht DMP

Project abstract:

Cardiovascular disease (CVD) takes 17.9 million lives each year, which comprises 32% of all deaths, making it the leading cause of death worldwide.(1) Despite lifestyle changes and use of anticoagulants, patients remain at high risk of cardiovascular events. Therefore novel therapeutic strategies are needed.(2–5) Recently, colchicine has been associated with cardiovascular benefits for secondary prevention in two randomized controlled trials.(6,7) Given the potential new treatment modality and repurposing of colchicine, novel drug-drug interactions between other cardiovascular drugs, such as vitamin K antagonists (VKAs), may be of interest, but have not been thoroughly investigated.(5,8)

In vitro studies suggest a potential interaction between VKAs and colchicine due to possible CYP2C9 inhibition. Colchicine potentially alters the GR-[PXR/CAR/ RXR]-P450 signal transduction cascade due to cytoskeleton disruption resulting in less CYP2C9 expression. (9,10) This phenomenon may also be present in the in vivo population: several VKA cases with overanticoagulation were reported within three to seven days after initiation of colchicine.(11)

However, the clinical relevance of this potential pharmacokinetic interaction remains unclear. Even in the presence of a pharmacokinetic interaction, its translation from altered VKA levels to impact on clinical outcomes is uncertain. Clinical efficacy and safety of anticoagulation with VKAs is measured primarily using the prothrombin time, the derived international normalized ratio (INR) and the proportion (or percentage) of time that an INR is within the predetermined therapeutic window, i.e. the time within therapeutic range (TTR). A TTR of at least 65% is commonly used for defining 'good INR control' as pointed out in clinical trials, providing adequate efficacy.(12–14) Clinical evidence on impact of colchicine on these therapeutic outcomes following VKA treatment is, however, limited to anecdotal case reports only.(11)

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Start date: 27-10-2022

End date: 31-12-2023

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INTERACTION BETWEEN VITAMIN K ANTAGONISTS AND COLCHICINE IN PATIENTS WITH CHRONIC CORONARY DISEASE

1. General features

1.1. Please fill in the table below. When not applicable (yet), please fill in N/A.

DMP template version	30 (don't change)
ABR number *(only for human-related research)*	N/A
METC number *(only for human-related research)*	N/A
DEC number *(only for animal-related research)*	N/A
Acronym/short study title	INTERACTION BETWEEN VITAMIN K ANTAGONISTS AND COLCHICINE IN PATIENTS WITH CHRONIC CORONARY DISEASE
Name Research Folder	COLVKA
Name Division	Lab
Name Department	Apotheek
Partner Organization	N/A
Start date study	10-11-2022
Planned end date study	31-12-2023
Name of datamanager consulted*	dlab-datamanagement@umcutrecht.nl
Check date by datamanager	21-12-2022

1.2 Select the specifics that are applicable for your research.

- Observational study
- Non-WMO

2. Data Collection

2.1 Give a short description of the research data.

Data source external extracted from the LoDoCo2 trial.
E.g. INR data

Subjects	Volume	Data Source	Data Capture Tool	File Type	Format	Storage space
Human	100	LoDoco2 Trial	Excel	Quantitative	.xlsx	0-10 GB

2.2 Do you reuse existing data?

- Yes, please specify

Data that was already collected during the LoDoCo2 trial will be analysed

2.3 Describe who will have access to which data during your study.

Data is all anonymised

Type of data	Who has access
Pseudonymized data	Research team, Datamanager

2.4 Describe how you will take care of good data quality.

#	Question	Yes	No	N/A
1.	Do you use a certified Data Capture Tool or Electronic Lab Notebook?			X
2.	Have you built in skips and validation checks?			X
3.	Do you perform repeated measurements?			X
4.	Are your devices calibrated?			X
5.	Are your data (partially) checked by others (4 eyes principle)?	X		
6.	Are your data fully up to date?	X		
7.	Do you lock your raw data (frozen dataset)	X		
8.	Do you keep a logging (audit trail) of all changes?			X
9.	Do you have a policy for handling missing data?	X		
10.	Do you have a policy for handling outliers?	X		

2.5 Specify data management costs and how you plan to cover these costs.

N/A

2.6 State how ownership of the data and intellectual property rights (IPR) to the data will be managed, and which agreements will be or are made.

UMC Utrecht is and remains the owner of all collected data for this study.

3. Personal data (Data Protection Impact Assessment (DPIA) light)

Will you be using personal data (direct or indirect identifying) from the Electronic Patient Dossier (EPD), DNA, body material, images or any other form of personal data?

- No, go to 4.1

4. Data Storage and Backup

4.1 Describe where you will store your data and documentation during the research.

The digital files will be stored in the secured Research Folder Structure of the UMC Utrecht.

4.2 Describe your backup strategy or the automated backup strategy of your storage locations.

All (research) data is stored on UMC Utrecht networked drives from which backups are made automatically twice a day by the division IT (dIT).

5. Metadata and Documentation

5.1 Describe the metadata that you will collect and which standards you use.

Metadata will be saved in the Research Folder Structure (RFS). E.g.

- Overall research project: information about how, when and by whom what data was collected (e.g. description, format, date, creator, etc.).
- Data dictionary: lists basic definitions of a database, including labels and values in the dataset.

5.2 Describe your version control and file naming standards.

We will distinguish versions by indicating the version in the filename of the master copy by adding a code after each edit, for example V1.1 (first number for major versions, last for minor versions). The most recent copy at the master location is always used as the source, and before any editing, this file is saved with the new version code in the filename. The file with the highest code number is the most recent version and older versions are moved to a folder OLD. The major versions will be listed in a version document (projxVersDoc.txt), stating the distinguishing elements per listed version.

6. Data Analysis

6 Describe how you will make the data analysis procedure insightful for peers.

I have written an analysis plan in which I state why I will use which data and which statistical analysis we plan to do in which software. The analysis plan is stored in the project folder, so it is findable for my peers.
We will be using SAS, version 9.4, for statistical analysis of the data. The scripts will contain comments, such that every step in the analysis is documented and peers can read why I made certain decisions during the analysis phase.

7. Data Preservation and Archiving

7.1 Describe which data and documents are needed to reproduce your findings.

The data package will contain: the raw data, the study protocol describing the methods and materials, the script to process the data, the scripts leading to tables and figures in the publication, a codebook with explanations on the variable names, and a ‘read_me.txt’ file with an overview of files included and their content and use.

7.2 Describe for how long the data and documents needed for reproducibility will be available.

Data and documentation needed to reproduce findings from this non-WMO study will be stored for at least 15 years.

7.3 Describe which archive or repository (include the link!) you will use for long-term archiving of your data and

whether the repository is certified.

After finishing the project, the data package will be stored at the UMC Utrecht Research Folder Structure and is under the responsibility of the Principal Investigator of the research group. When the UMC Utrecht repository is available, the data package will be published here.

7.4 Give the Persistent Identifier (PID) that you will use as a permanent link to your published dataset.

I cannot publish the dataset in an external repository. Therefore, I do not have a PID.

8. Data Sharing Statement

8.1 Describe what reuse of your research data you intend or foresee, and what audience will be interested in your data.

The raw data can be of interest for other researchers or for spin off projects

8.2 Are there any reasons to make part of the data NOT publicly available or to restrict access to the data once made publicly available?

- Yes (please specify)

Our data will be shared with third parties after approval of the Principle Investigator. The criteria and time period will be determined on a case-by-case basis.

8.3 Describe which metadata will be available with the data and what methods or software tools are needed to reuse the data.

All data and documents in the data package mentioned in 7.1 will be shared under restrictions.

8.4 Describe when and for how long the (meta)data will be available for reuse

- Other (please specify)

Our data will be shared with third parties after approval of the Principle Investigator. The criteria and time period will be determined on a case-by-case basis.

8.5 Describe where you will make your data findable and available to others.

Our data will be shared with third parties after approval of the Principle Investigator. The criteria and time period will be determined on a case-by-case basis.