The influence of different diets on alectinib pharmacokinetics in NSCLC patients (the DIALECT study).

Published: 11-08-2021
Last updated: 15-05-2024

To investigate the effect of various dietary interventions and co-administration of subcutaneous semaglutide on the pharmacokinetics of alectinib in NSCLC patients.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Respiratory and mediastinal neoplasms malignant and unspecified
Study type	Interventional

Summary

ID

NL-OMON54011

Source
ToetsingOnline

Brief title
DIALECT

Condition

- Respiratory and mediastinal neoplasms malignant and unspecified

Synonym
lungcancer, Non-small cell lung carcinoma

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Absorption, Alectinib, Interaction, Pharmacokinetics

Outcome measures

Primary outcome

The Ctrough of alectinib in patients with NSCLC treated with alectinib when concomitantly taken with a continental breakfast, low-fat yoghurt as breakfast or at lunchtime.

Secondary outcome

- The current food intake with alectinib;

- The occurrence of patient-reported toxicity when alectinib is taken with a continental breakfast, a low fat diet and lunchtime;

- A pharmacokinetic model of alectinib when alectinib is taken with a continental breakfast.

- Analysis of a possible drug-drug interaction between alectinib and semaglutide.

Study description

Background summary

Alectinib (Alecensa) is a second generation small-molecule kinase inhibitor, registered for ALK-positive, metastatic non-small cell lung cancer (NSCLC). Because alectinib*s plasma trough concentration (Ctrough) is correlated with patients* progression-free survival, it is important to optimize its bioavailability. Compared to fasted intake, alectinib*s exposure increases with >200% when taken with a high-fat meal. In daily practice, patients are therefore recommended to take alectinib twice daily with a (high-fat) meal. However, 37% of patients does not reach the vital Ctrough. Additionally, (extreme) weight gain is an important side effect of alectinib treatment. It is currently unknown if there are good (and healthy) alternatives for a high-fat

meal to increase alectinib*s absorption and to optimize its treatment. The anti-obesity drug semaglutide could be used as treatment for severe alectinib-induced weight gain. However, the possible pharmacokinetic effect semaglutide has on alectinib due to delayed gastric emptying ought to be investigated before this drug can be co-administered on a larger scale.

Study objective

To investigate the effect of various dietary interventions and co-administration of subcutaneous semaglutide on the pharmacokinetics of alectinib in NSCLC patients.

Study design

This study is an interventional, randomized, three-period cross-over pharmacokinetic study in which alectinib will be taken twice daily (BID) for seven days in combination with:

- in phase A (control phase): a normal diet, c.q. continental breakfast and normal dinner;
- in phase B: a low-fat diet, c.q. 200 grams low-fat yoghurt as breakfast, and normal dinner;
- in phase C: a normal diet with different intake times, c.q. lunch and dinner.
- in phase D: a normal diet, c.q. continental breakfast and dinner, with co-administration of semaglutide 2.0 mg s.c..

After the 7th day of each phase, patients are asked to withdraw blood in the morning, prior to alectinib intake to collect a Ctrough sample. Optionally, in phases A and D, patients are admitted for a 10-hour pharmacokinetic sampling of in total 13 samples.

Intervention

- in phase B: a low-fat diet, c.q. 200 grams low-fat yoghurt as breakfast, and normal dinner;
- in phase C: a normal diet with different intake times, c.q. lunch and dinner.
- in phase D: a normal diet, c.q. continental breakfast and dinner, with co-administration of semaglutide 2.0 mg s.c..

Study burden and risks

The risk of blood withdrawal is negligible. In addition, the risk for altered alectinib concentrations in this short period is also considered to be negligible. The burden for patients is also limited as only a Ctrough sample is taken and the 10h PK-sampling is optional.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

• Age: >=18 years;
• Able to understand the written information and willing to give informed consent;
• Diagnosed with metastatic NSCLC and (are planned to) receive treatment with alectinib (Alecensa);
• Use of alectinib of at least 14 days, to guarantee steady-state, and expected to continue treatment until end of study period;
• Willing to follow dietary restrictions.

Exclusion criteria

• Unable to draw blood for study purposes;
• Unwillingness to abstain from any other food or drinks than the prescribed restrictions 1 hour before and 2 hours after intake of alectinib at the pharmacokinetic sampling day;
• Patients with known impaired drug absorption (e.g. gastrectomy and achlorhydria);
• Allergic to compounds in yoghurt.

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	30-08-2021
Enrollment:	20
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Ozempic
Generic name:	Semaglutide
Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	11-08-2021
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	13-04-2023
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	06-06-2023
Application type:	Amendment
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	11-07-2023
Application type:	Amendment
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	08-08-2023
Application type:	Amendment
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

ID: 28490
Source: NTR
Title:

In other registers

Register	ID
EudraCT	EUCTR2022-003275-42-NL
CCMO	NL78079.078.23
OMON	NL-OMON28490