INTRODUCTION

- Alectinib is the keystone treatment in advanced anaplastic lymphoma kinase positive non-small cell lung cancer (NSCLC).
- A poor bioavailability and large variability with alectinib is seen.
- The exposure of alectinib is significantly correlated with progression-free survival (Groenland 2021 et al.).
- To further improve alectinib treatment, we investigated the pharmacological interaction of food with different fat content.

CONCLUSIONS

- Patients and physicians should be warned for a detrimental food effect when alectinib is taken with low-fat yogurt.
- Administration with lunch is a safe and patient-friendly alternative for a continental breakfast.
- Dietary counseling in these patients should be considered to improve treatment efficacy.

METHODS

- Randomized pharmacokinetic cross-over study with NSCLC patients on alectinib.
- Three diets with different fat content.
- PK (C\text{trough}) sampling after seven days of intervention.
- Comparison of the relative difference in C\text{trough} (linear mixed model).

RESULTS

- In 20 patients, a clinically relevant pharmacokinetic effect was observed when taken with different meals.

<table>
<thead>
<tr>
<th>Diet</th>
<th>Effect (95% CI)</th>
<th>P-value</th>
<th>Fat content (gr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yogurt vs Continental</td>
<td>-14% (-23 to -5%)</td>
<td>0.009</td>
<td>3.8 vs 21.3</td>
</tr>
<tr>
<td>Yogurt vs Lunch</td>
<td>-20% (-25 to -14%)</td>
<td>&lt;0.001</td>
<td>3.8 vs 19.5</td>
</tr>
<tr>
<td>Lunch vs Continental</td>
<td>+7% (-2 to +17%)</td>
<td>0.243</td>
<td>19.5 vs 21.3</td>
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</tbody>
</table>

- No difference in toxicity was seen between study periods.
- In the low-fat yogurt period, 35% of patients did not reach the threshold value, versus 5% with the other meals (p<0.01).

PHARMACOKINETIC EFFECT

Alectinib exposure diets

Daan A.C. Lanser
d.lanser@erasmusmc.nl
Erasmus University MC Rotterdam