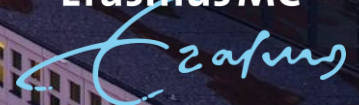


IMPACT OF KAFTRIO ON RESTING ENERGY EXPENDITURE (REE) AND BODY COMPOSITION IN ADULT PATIENTS

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LET ME INTRODUCE MYSELF :)

- My name is Elmi Wopereis
- Dietician at Erasmus MC in Rotterdam
- Area of focus is pulmonary diseases, including cystic fibrosis (CF)



OVERVIEW

Impact of Kaftrio on resting energy expenditure (REE) and body composition in an adult patients

- Literature
- Retrospective medical file study in adult patiënts with CF at Erasmus MC
- Case
- Discussion points
- Conclusion

LITERATURE

What is known about the impact of Kaftrio on REE and body composition?

Bass et al. did a review (2021) and presented:

- reduced resting energy expenditure of 5,5%,
- improved fat absorption
- a decrease in intestinal inflammation

This resulted in weight gain of an average of 2.5 kg (of which 0.9 kg was fat-free mass, 1.6 kg fat mass)

Kutney et al., (2021) presented 2.4% weight gain after 3 months of Kaftrio use. **Something to keep in mind:**

This study shows that use of another CFTR modulator in history shows less weight gain.

OUR OWN PATIENTS

A retrospective file study

We did a retrospective file study on adult CF-patients, treated at Erasmus MC

The following measurements were conducted:

- Bodyweight
- Body mass index (BMI)
- Fat free mass index (FFMI) and fat mass (%) using Dual-Energy X-ray Absorptiometry (DEXA)

The timing of the measurements:

- Once a year, consecutive two to three years

OUR OWN PATIËNTS

A retrospective file study

- 116 patiënts included
- 51.7% male, 48.3% female
- \pm 33 years old
- 63.8% mutation homozygous delta-F508
- 52.6% CFRD
- 79.3% exocrine pancreatic insufficiency
- 70.7% using Kaftrio in combination with Kalydeco
- 75.8% used another CFTR-modulator before starting with Kaftrio

OUR OWN PATIENTS

A retrospective file study

	Baseline mean±SD (N)	Year 1 mean±SD (N)	Year 2 mean±SD (N)
Bodyweight (kg)	65,6 ±12,38 (116) *	67,6 ±12,21 (116) *	65,4 ±10,25 (80) *
BMI (kg/m ²)	22,2 ±3,71 (116) *	22,8 ±3,73 (116) *	22,2 ±2,92 (79) *
Fat free mass index (kg/m ²)	17,27 ±2,09 (29)	17,01 ±2,27 (29)	17,02 ±2,43 (11)
Fat mass (%)	23,27 ±9,61 (29) *	25,29 ±8,03 (29) *	23,3 ±5,91 (12)

* P <0.05

CASE

Background

- Male, 68 years old
- Cystic fibrosis, homozygous delta-F508
- Exocrine pancreatic insufficiency
- 2017: stage III colon transverse carcinoma for which laparoscopic hemicolectomy followed by adjuvant capecitabine monotherapy
- Started Symkevi in September 2019
- Switched to Kaftrio in January 2022

CASE

Results

	Prior to start Ivacaftor	After start Ivacaftor	Difference
REE (kCal/day)	1866	1461	- 405
BW (kg)	62,5	60	- 2,5
BMI (kg/m ²)	21,6	20,8	- 0,8
FFM (kg)	48,1	49,8	+ 1,7
FFMI (kg/m ²)	16,6	17,2	+ 0,6
FM (kg)	14,5	10,2	- 4,3
FMI (kg/m ²)	5	3,5	- 1,5
HGS (kg)	31	33	+ 2

Prior to start versus after two years of using Kaftrio

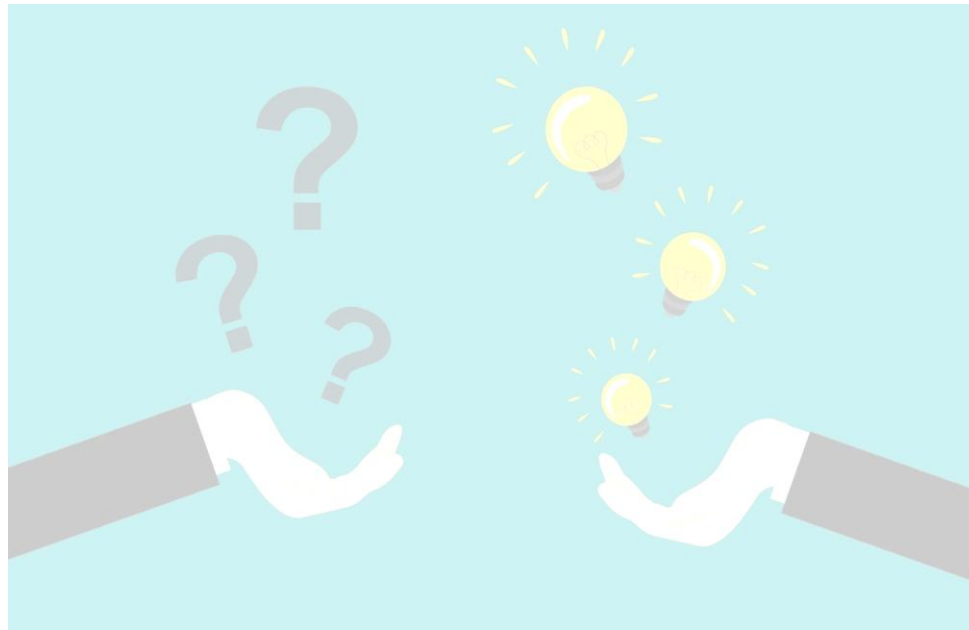
DISCUSSION POINTS

- Since the results are variable, should indirect calorimetry and measuring body composition be a requirement when our patients start using Kaftrio?
- And if so, at what point should we measure?

CONCLUSION

- Measuring REE through indirect calorimetry and measuring body composition is important for individual dietary recommendations
- There is still a lot that we don't know, more research is needed!

QUESTIONS?



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CASE

REE and body composition prior to start medication

Indirect calorimetry (IC) with QNRG+ 10-2020

- REE: 1866 kCal
- RQ 0,91

Dual-energy X-ray Absorptiometry (DEXA) 12-2020

- BW: 62,5 kg
- BMI: 21,6 kg/m²
- FFM: 48,1 kg
- FFMI: 16,6 kg/m² (<P5)
- FM: 14,5 kg
- FMI: 5 kg/m² (P25-P50)

Maximum handgrip strength 2019

- 31 kg (P10)

CASE

REE and body composition after start medication

Indirect calorimetry (IC) with QNRG+ 04-2022

- REE: 1461 kCal
- RQ: 0,85

Dual-energy X-ray Absorptiometry (DEXA) 04-2022

- BW: 60 kg
- BMI: 20,8 kg/m²
- FFM: 49,8 kg
- FFMI: 17,2 kg/m² (P5)
- FM: 10,2 kg
- FMI: 3,5 kg/m² (P10)

Maximum handgrip strength 04-2022

- 33 kg (P10)