



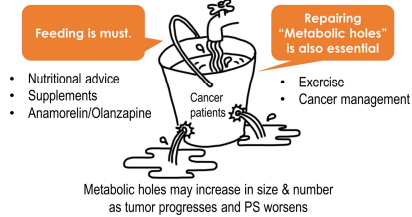
A randomized phase II study of early nutritional and exercise treatment for elderly patients with advanced non-small cell lung or pancreatic cancer

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Japanese Association of Supportive Care in Cancer
Cachexia Study Group

OUR HYPOTHESIS

Cancer cachexia is like a "bucket with holes" requiring **early & multimodal** approach



STUDY DESIGN

Aims

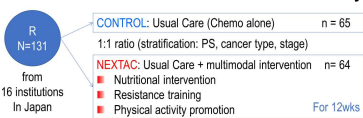
We aimed to elucidate whether the **early multimodal intervention** (NEXTAC program) improves functional prognosis in **elderly patients with a high-risk for cancer cachexia**.

Eligibility

- Weight loss was not required
 - Majority were at the time of first cancer diagnosis
 - The earliest possible timing of cachexia intervention
1. ≥ 70 years old
 2. Newly diagnosed advanced non-small cell lung or pancreatic cancer
 3. Planned to receive the first-line systemic chemotherapy (including targeted Tx)
 4. ECOG-PS 0-2
 5. Without disability in Katz-index
 6. Without organ complications or symptomatic brain or bone mets

Miura S. BMC Cancer. PMID: 31151425

The NEXTAC-TWO: a randomized Phase 2 study



Primary Endpoint

Disability-free survival

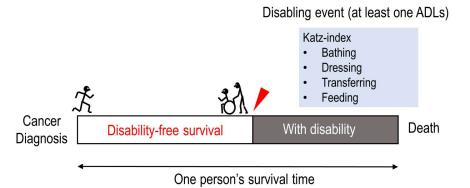
Secondary Endpoints

1. Weight, Lumbar skeletal muscle index
2. Physical function (HGS, SPPB, 5 sit-to-stand test)
3. Nutrition (MNA, oral intake)
4. Overall survival

Miura S. BMC Cancer 2019; PMID: 31151425
Trial registration No. UMIN00002801

OUTCOME

Measuring functional prognosis



Naito T. BMC Cancer, 2017

INTERVENTION

NEXTAC intervention

Miura S. BMC Cancer 2019 PMID: 31151425
Naito T. JCSM 2018 PMID: 30334618

Interventions	Exercise		
	Nutrition	Resistance training	Physical activity
Instructors	Registered diettitian	Physiotherapists, Nurses, or Physicians	
Duration	4 Sessions every 4±2 weeks (total 12 weeks)		
Session time	20-30 minutes for each session		
Contents	• Nutritional assessment • Nutritional advice • NIS counseling • BCAA-rich ONS	• 20-30 minutes for each session • Physical assessments • Home-based light intensity resistance training in lower limbs	• Lifestyle assessments • Accelerometer-based counseling • Behavioral Change Tech

NEXTAC showed an excellent compliance & adherence in the previous NEXTAC-ONE feasibility study



BACKGROUND

Patient background

Variables	NEXTAC	CONTROL
N	64	65
Median Age (range)	75.5 (70-87)	76 (70-86)
Female gender (%)	19 (30)	24 (37)
PS 0	45 (45)	25 (39)
1	31 (48)	37 (57)
2	4 (6)	3 (6)
Cancer Lung	45 (70)	46 (71)
Pancreatic	19 (30)	19 (29)
Stage		
Locally advanced	12 (19)	6 (9)
Metastatic	52 (81)	59 (91)
Cytotoxic regimen	40 (62)	40 (62)
Targeted or immunotherapy	24 (38)	25 (39)
Cancer cachexia (Fearon criteria)	31 (48)	36 (55)
Muscle depletion (Martin L, 2015)	40 (66)	50 (78)

No statistical differences in any variables between the groups

OUTCOMES

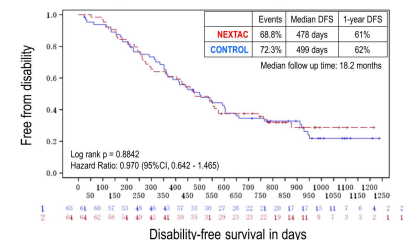
Compliance & adherence

Variables	NEXTAC	CONTROL
N	64	60
No. of attendance to sessions, median (range)	8 (4-8)	-
Participation ratio (%)	63 (98.4)	-
Supplements consumption (%)	88 (73 - 97)	-
Exercise performance (%)	86 (53 - 96)	-
% of Accelerometer wearing day (≥5 h/day, %)	98 (81 - 100)	95 (78 - 97)
No. of patients who increased indoor activity (or full), n (%)	15 (23.8)	23 (38.3)
No. of patients who increased outdoor activity (or full), n (%)	25 (39.7)	25 (41.7)
No. of patients who increased daily steps, n (%)	65.5	34.6

Definition of participation: attendance to 3±3 sessions

Compliance to Exercise & Supplements was excellent in NEXTAC group
However, there are no statistical differences in behavioral change parameters between the groups

Primary endpoint: Disability-free survival



SECONDARY ANALYSIS

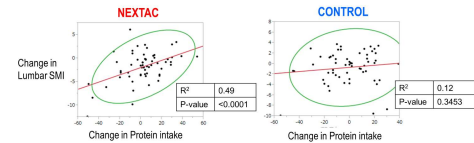
Secondary endpoints & Safety

Changes T1 to T4	NEXTAC	CONTROL	P-value
Body weight	-1.2±0.4	-0.7±0.4	0.660
Lumbar SMI	-1.8±0.4	-0.7±0.4	0.0232*
Physical function			
Hand grip strength	-1.3±0.3	-0.7±0.3	0.5242
SPPB score	-0.1±1.5	-0.2±0.4	0.6932
5 sit-to-stand test time	0.2±2.3	0.2±2.7	0.6042
Nutrition			
Full MNA score	0.7±0.6	0.4±0.5	0.3949
Calorie intake	127.2±59.0	-41.6±50.8	0.0367*
Protein intake	2.5±2.5	-0.7±2.5	0.3703
Overall survival (median)	547 days	604 days	0.9836

- Intervention-related adverse events (all Grade 1 in CTC-AE ver 4.0)
- fatigue 5 (7.8%), Joint pain 3 (4.7%), Dyspnea 2 (3.1%), Muscle pain 1 (1.6%)

Exploratory post-hoc analysis

What is the meaning of adding exercise to nutrition?



Exercise may sensitize the muscle to nutrition

DISCUSSION

Conclusion

- Early multimodal intervention (NEXTAC) **DID NOT**
 - Prevent disability
 - Increase weight and skeletal muscle
 - Improve physical functions
 - Improve nutritional status except for calorie intake



We couldn't stop it (>_<)

- What have we learned from this study?
 - The **oncological heterogeneity** may largely affect the functional outcomes
 - **Much stronger anabolic** intervention may be needed such as high-intensity exercise or adding anamorelin to modify the functional trajectory of cancer cachexia

Thank you for your attention (^^)