THE FRAILTY INDEX IN OLDER WOMEN WITH GYNECOLOGICAL CANCER

Dott.ssa Laura Orlandini

28 Novembre 2019

Cancer
in the aging population

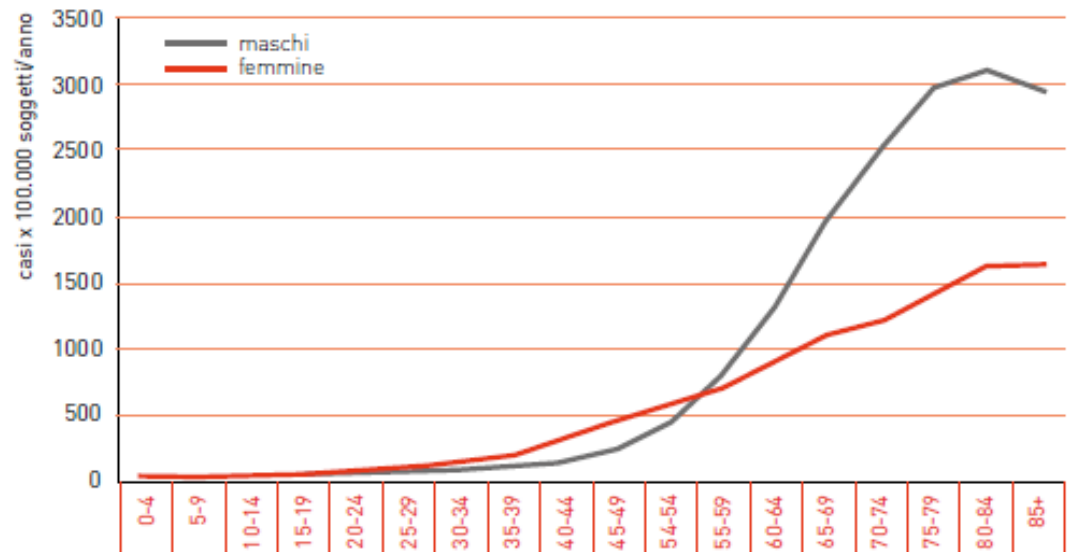**FIGURA 2.** AIRTUM 2010-2015. Incidenza. Tassi età-specifici (x 100.000) per sesso. Tutti i tumori esclusi carcinomi della cute

Older Patients (Still) Left Out of Cancer Clinical Trials

Jennifer Abbasi

Oncogeriatric approach and Frailty
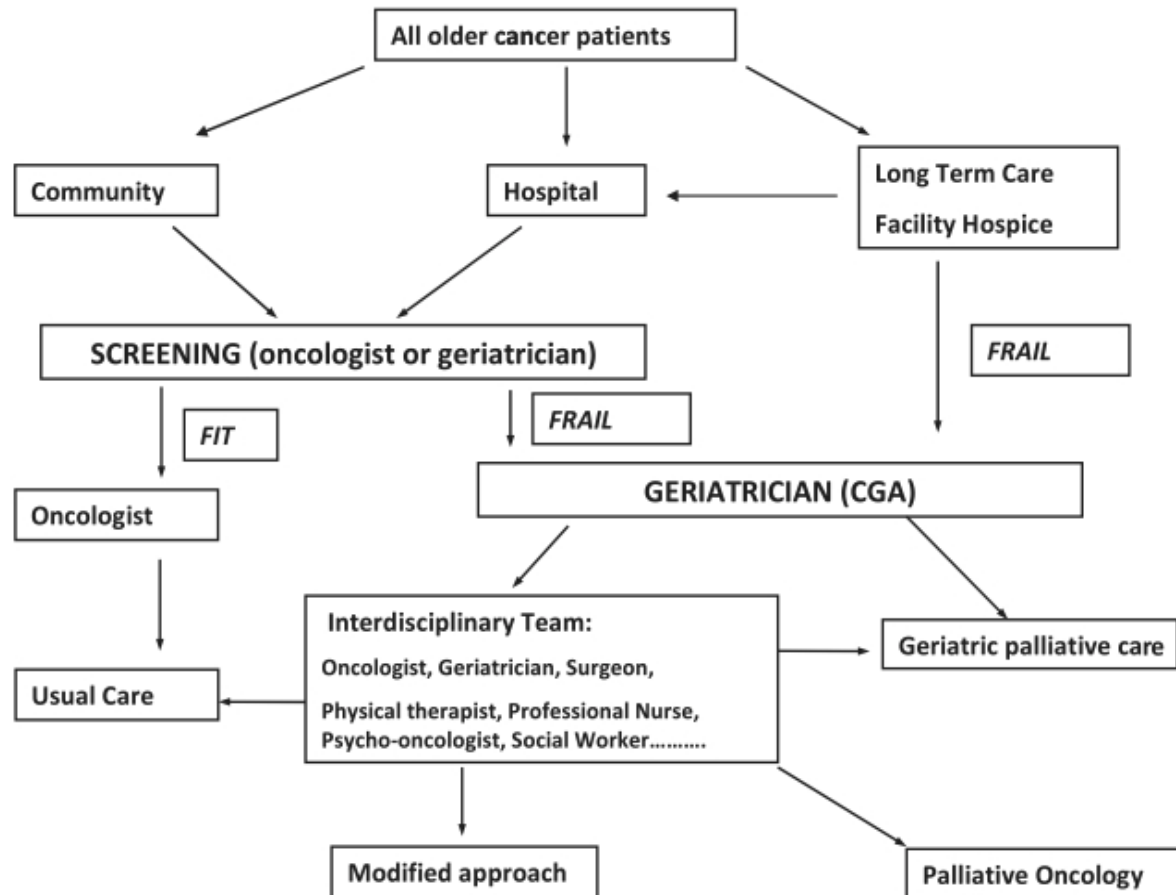
Balducci L et al. *Surg Oncol 2010;19:117-23*

The Frailty Index

Accumulation of Deficits as a Proxy Measure of Aging

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$$\textit{Frailty Index score} = \frac{\textit{Number of deficits in an individual}}{\textit{Total number of deficits measured}}$$

Aim of the study:

- To verify the prognostic capacity of the Frailty Index for negative health-related events in the oncology setting

- To compare the prognostic capacity of the Frailty Index versus other scales used in the field

Study Design:

- Data from a previously conducted observational study

- Sample: 200 women aged ≥65 years affected by gynecological cancer

- Multidisciplinary baseline assessment

- Follow-up: 12 months

Outcome: 1-year mortality

Independent variable: 40-item Frailty Index

Other variables of interest:

- Karnofsky Performance Status (KPS)

- Eastern Cooperative Oncology Group (ECO-G)

- Vulnerable Elders Survey (VES-13)

Results: study population

Variable	Mean (SD), or percentage
Age (years)	73.5 (6.2)
Education (years)	8.6 (4.1)
Current smoking	13.0
MMSE	28.0 (3.0)
GDS	5.0 (3.0)
Hypertension	83.0
IHD	20.0
COPD	3.5
Diabetes	16.5
ADL	5.1 (1.3)
IADL	6.5 (2.3)
Number of medications	3.7 (2.5)

A total of 23 participants (11.5%) died during the follow-up

Results: the Frailty Index

Diseases	Disabilities	Signs and symptoms
Atrial fibrillation	Bathing	Chair stand test
Chronic heart failure	Continence	Creatinine
Chronic pulmonary disease	Doing laundry	Diastolic blood pressure
Depression	Dressing	Handgrip strength
Diabetes	Finance handling	Hemoglobin
Hypertension	Feeding	Mini Mental State Examination
Hyperthyroidism	Food preparation	Perceived depressive symptoms
Hypothyroidism	House keeping	Perceived difficulty in daily activities
Ischemic heart disease	Mobility	Perceived mobility difficulty
Liver disease	Shopping	Perceived self-care difficulty
Osteoporosis	Taking medication	Perceived pain/discomfort
Transient ischemic attack	Telephone use	Platelet count
	Toileting	Systolic blood pressure
	Transportation	Visual Analogue Scale for pain

Results: the Frailty Index
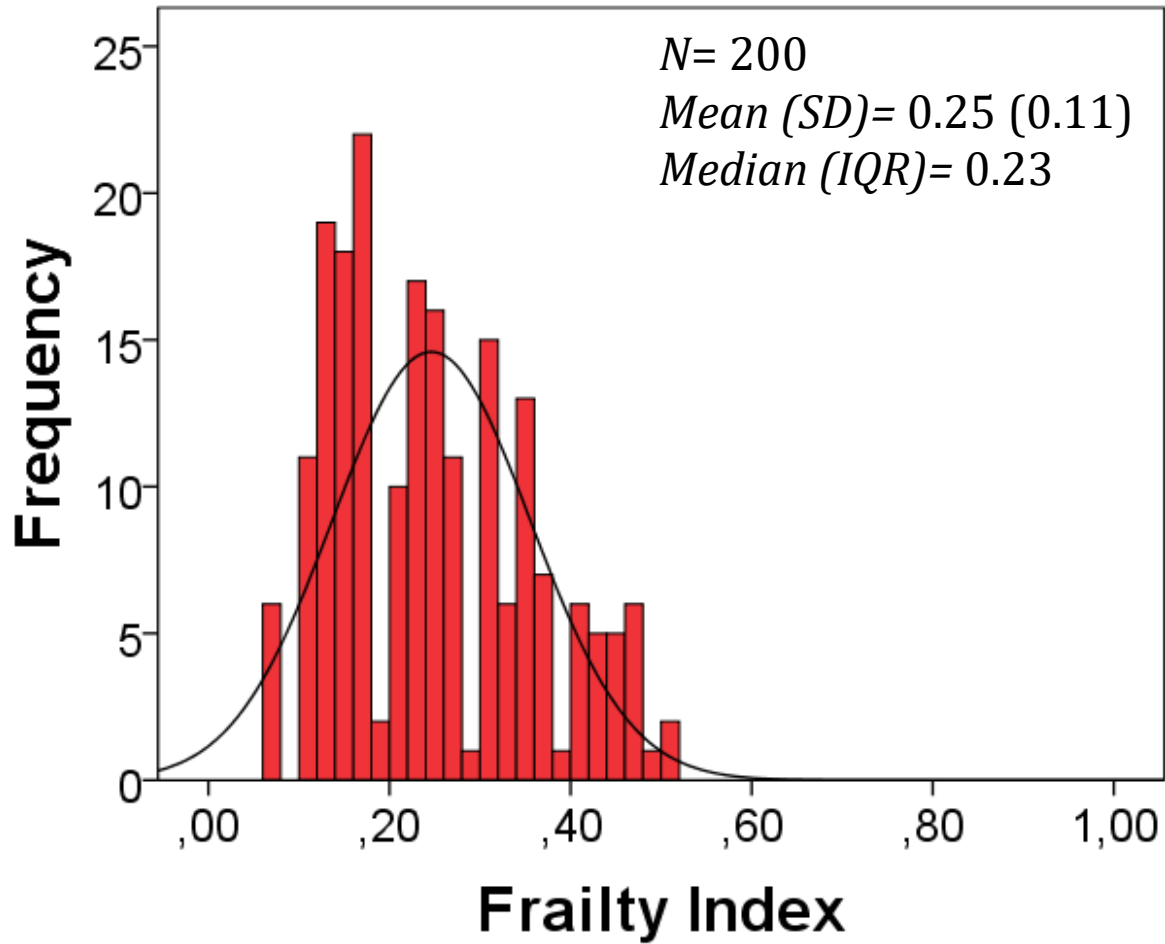
Results: Spearman's correlations

Frailty Index

	Frailty Index	ECOG	KPS
ECOG	0.09		
KPS	0.06	0.73**	
VES-13	0.69**	0.14	0.16*

*p <0.05; **p<0.01

Results: regression analysis

n/N = 23/200	Unadjusted	Adjusted
Frailty Index	1.88 (1.22-2.92)**	3.40 (1.55-7.45)**
ECOG	0.59 (0.28-1.24)	0.62 (0.31-1.21)
KPS	0.91 (0.64-1.28)	0.80 (0.40-1.58)
VES-13	1.12 (0.96-1.32)	2.80 (1.08-7.25)*

* p <0.05; ** p<0.01

Results: FI predictive capacity
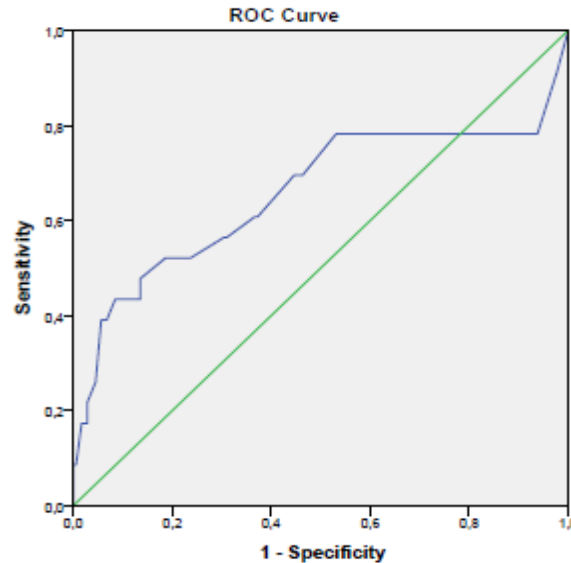
AUC: 66%

FI range	Sens %	Spec %	PPV %	NPV %	Accuracy %
<0.10	91.3	2.26	10.82	66.67	12.5
<0.20	78.26	41.24	14.75	93.59	45.5
<0.30	56.52	69.49	19.4	94.48	68.0
<0.40	43.48	80.23	22.2	91.61	76.0
<0.50	8.7	88.7	9.09	88.2	79.5

Conclusions

• The Frailty Index is a significant predictor of mortality in older women with gynecological cancer.

• Its predictive capacity is superior to other screening tools commonly used in the oncological assessment

• The Frailty Index is able to potentially support clinical choices and guide tailored interventions (standard treatment vs adapted care vs palliative approach)

Grazie per l'attenzione!

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Table 1. Main Characteristics of the Sample

	Total (n = 200)	Survived (n = 177)	Deceased (n = 23)	p
Age (years)	73.5 (6.2)	73.8 (6.3)	70.7 (4.8)	.02
Current smoking	13.3	13.9	9.1	.53
Mini-Mental State Examination	27.0 (2.6)	27.1 (2.3)	26.1 (4.0)	.08
Geriatric Depression Scale	5.0 (3.0)	5.0 (2.9)	5.3 (3.8)	.70
Body mass index (kg/m²)	28.5 (5.9)	28.2 (5.6)	30.8 (7.2)	.06
Type of cancer*				
Ovarian	50.8	50.0	56.5	.56
Uterine	33.0	32.2	39.1	.51
Cervical	8.0	8.5	4.3	.49
Vulvar	4.0	4.5	—	.30
Other	6.0	6.2	4.3	.72
Stage of cancer				
Stage I	12.2	12.2	11.8	.84
Stage II	19.1	20.4	11.8	
Stage III	61.7	60.2	70.6	
Stage IV	7.0	7.1	5.9	
Grading				
G1	14.5	13.5	22.7	.49
G2	22.8	23.4	18.2	
G3	62.7	63.2	59.1	
Cumulative Illness Rating Scale†	1.0 (0.5)	1.0 (0.5)	1.0 (0.4)	.61
Number of medications‡	3.7 (2.5)	3.8 (2.6)	3.0 (1.9)	.14
Interventions				
Surgery	86.5	86.4	87.0	.95
Radiotherapy	8.5	9.0	4.3	.45
Chemotherap	59.5	58.8	65.2	.55
Palliative care	1.5	1.7	—	.53
Hemoglobin (g/dL)	11.8 (1.6)	11.8 (1.6)	11.5 (1.7)	.43
Albumin (g/dL)	3.7 (0.6)	3.7 (0.6)	3.9 (0.5)	.29
Pain (mm)	35.8 (29.4)	35.4 (29.2)	38.9 (31.4)	.61
Quality of life (mm)	60.0 (23.8)	61.9 (22.0)	45.0 (31.8)	.002
Short Physical Performance Battery (range 0–12)	7.5 (3.5)	7.7 (3.3)	5.8 (4.4)	.01
Usual gait speed (m/s)	0.6 (0.3)	0.6 (0.3)	0.4 (0.3)	.001
Handgrip strength (kg)	23.3 (7.6)	23.6 (7.2)	21.1 (10.3)	.15
Eastern Cooperative Oncology Group (range 0–5)‡	0.9 (0.6)	0.9 (0.6)	0.7 (0.6)	.13
Grade 0	24.0	22.6	34.8	.50
Grade 1	66.0	66.7	60.9	
Grade 2	7.5	7.9	4.3	
Grade 3	2.5	2.8	—	
Karnofsky Performance Status (range 0–100%)	84.6 (14.0)	84.3 (13.8)	87.0 (15.2)	.39
0–40%	2.0	2.3	—	.76
50–70%	17.6	17.6	17.4	
80–100%	80.4	80.1	82.6	
Vulnerable elders survey-13 (range 0–13)	4.0 (3.0)	3.9 (3.0)	4.7 (3.0)	.25
0–3	46.9	48.7	33.3	.31
4–7	46.3	44.2	61.9	
8–13	6.9	7.1	4.8	
Activities of daily living	5.1 (1.3)	5.0 (1.3)	5.3 (0.9)	.29
Instrumental activities of daily living	6.5 (2.3)	6.8 (2.1)	4.4 (3.2)	<.001

Notes: Presented as percentages or means (SDs)
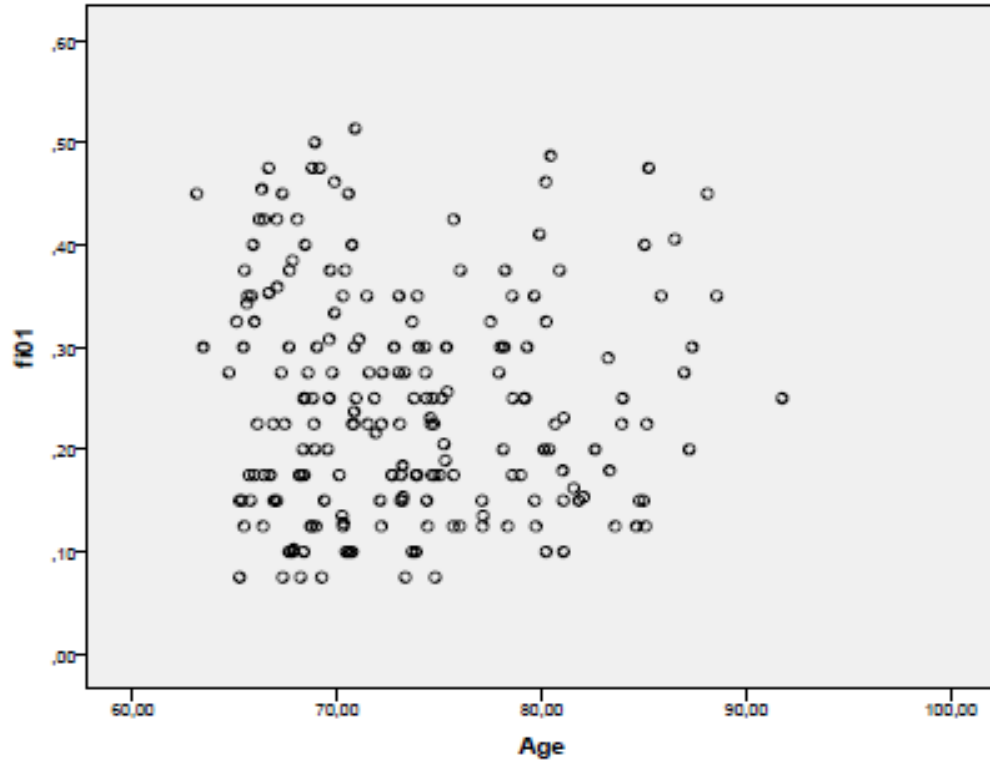
No significative correlation was found between age and FI ($r = -0.04$, $p = 0.57$)