

**Camila Santos Rodrigues, Mariah Azevedo Aredes, Gabriela Villaça Chaves**  
Affiliation: Department of Nutrition and Dietetics, Brazilian National Cancer Institute, Brazil.

## INTRODUCTION

Sarcopenia has been recently recognized as an important risk factor for high mortality and surgical complications in cancer patients. Estimation of the cross-sectional muscle area measured by computed tomography scans provides a quick and easy way to identify patients at higher risks of worst outcomes. The association between sarcopenia and short term survival has never been demonstrated in endometrial cancer (EC) patients. The aim of the present study was to investigate the prevalence of sarcopenia and its impact on both short and long-term outcomes among patients undergoing oncological treatment for EC.

## METHODS

- EC patients who underwent oncological treatment at Brazilian National Cancer Institute between 2008-2014 and had a CT scan available within 30 days before treatment were enrolled (n=212);
- Clinicopathological features and one-year survival were retrospectively collected from medical records;
- Transverse CT images at the third lumbar vertebra (L3) were analyzed using SliceOmatic software version 5.0 (Tomovision, Canada), which enables specific tissue demarcation using Hounsfield unit (HU) thresholds. Then, the cross-sectional of skeletal muscle area (cm<sup>2</sup>) were normalized by the square of the height (m<sup>2</sup>) to create Skeletal Muscle Index (SMI). Sarcopenia was defined when SMI was < 38,9 cm<sup>2</sup>/m<sup>2</sup> (Prado et al., 2008).
- Statistical Analysis: Multivariate logistic regression were calculated to assess predictors of surgical complications. One-year survival were evaluated by Kaplan-Meier method and Cox Regression. Variables were considered statistical significant when p<0.05.

## RESULTS

**Table 1:** Baseline characteristics

Age(years),	n (%)
< 60	65 (31,3)
> 60	143 (68,8)
<b>Histological type</b>	
Adenocarcinoma	177 (85,1)
Sarcoma	31 (14,9)
<b>Histological subtype</b>	
Endometrioid	96 (53,0)
Non-endometrioid <sup>a</sup>	85 (47,0)
<b>Staging</b>	
S I	77 (39,5)
S II	25 (12,8)
S III	52 (26,7)
S IV	41 (21,0)
<b>Treatment</b>	
Surgery	170 (81,7)
Chemotherapy	66 (31,7)
<b>Nutritional status</b>	
Sarcopenia (SMI ≤ 38,9 cm <sup>2</sup> /m <sup>2</sup> )	55 (26,4)
Overweight + Sarcopenia	25 (12)

a. clear-cells carcinoma, serous; SMI: skeletal muscle index

**Table 2:** Surgical and clinical outcomes according to sarcopenia diagnosis

	TOTAL n (%)	Sarcopenia		p
		No (n, %)	Yes (n, %)	
<b>Surgical complications</b>				
Yes	75 (44,6)	51 (68,0)	24 (32,0)	0,003
No	93 (55,4)	81 (87,1)	12 (12,9)	
<b>Type of surgical complications</b>				
<b>Infectious</b>				
Yes	33 (46,5)	25 (75,8)	8 (24,2)	0,493
No	38 (53,5)	26 (68,4)	12 (31,6)	
<b>Non infectious</b>				
Yes	41 (70,7)	30 (73,2)	11 (26,8)	0,841
No	17 (29,3)	12 (70,6)	5 (29,4)	
<b>30-day mortality</b>				
Yes	19 (9,1)	9 (47,4)	10 (52,6)	0,007
No	189 (90,9)	144 (76,2)	45 (23,8)	

The final model of multiple logistic regression analysis showed an OR= 2,59 (IC95% 1,199-6,135; p=0,030) for surgical complications in sarcopenic women.

The average one-year survival of women with sarcopenia was 209.3 days (95% CI 168.757 to 249.861) versus 307.6 days for women without sarcopenia (IC 289.217 to 325.907); Cox regression, after ajustment for histological type, staging and comorbidities, showed HR 2,239 (1,191- 4,209) for one-year mortality among sarcopenic patients (p=0,002).

## CONCLUSIONS

Sarcopenia is an independent prognosis factor in EC patients and should be assessed whenever possible to support early nutritional intervention.

Funding: FAPERJ

Projeto Gráfico: Serviço de Edição e Informação Técnico-Científica / INCA