

Evaluation of sarcopenia in older patients undergoing head and neck cancer surgery



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Abstract

Objective: To determine the prevalence and predictors of sarcopenia, and to evaluate the relationship between sarcopenia and post-operative outcomes

Methods: A prospective cohort study of patients 50 years and older undergoing major head and neck surgery

Results: A significant number of head and neck cancer patients had sarcopenia. Sarcopenia was predictive of multiple adverse outcomes, including medical complications, length of hospital stay, and overall survival.

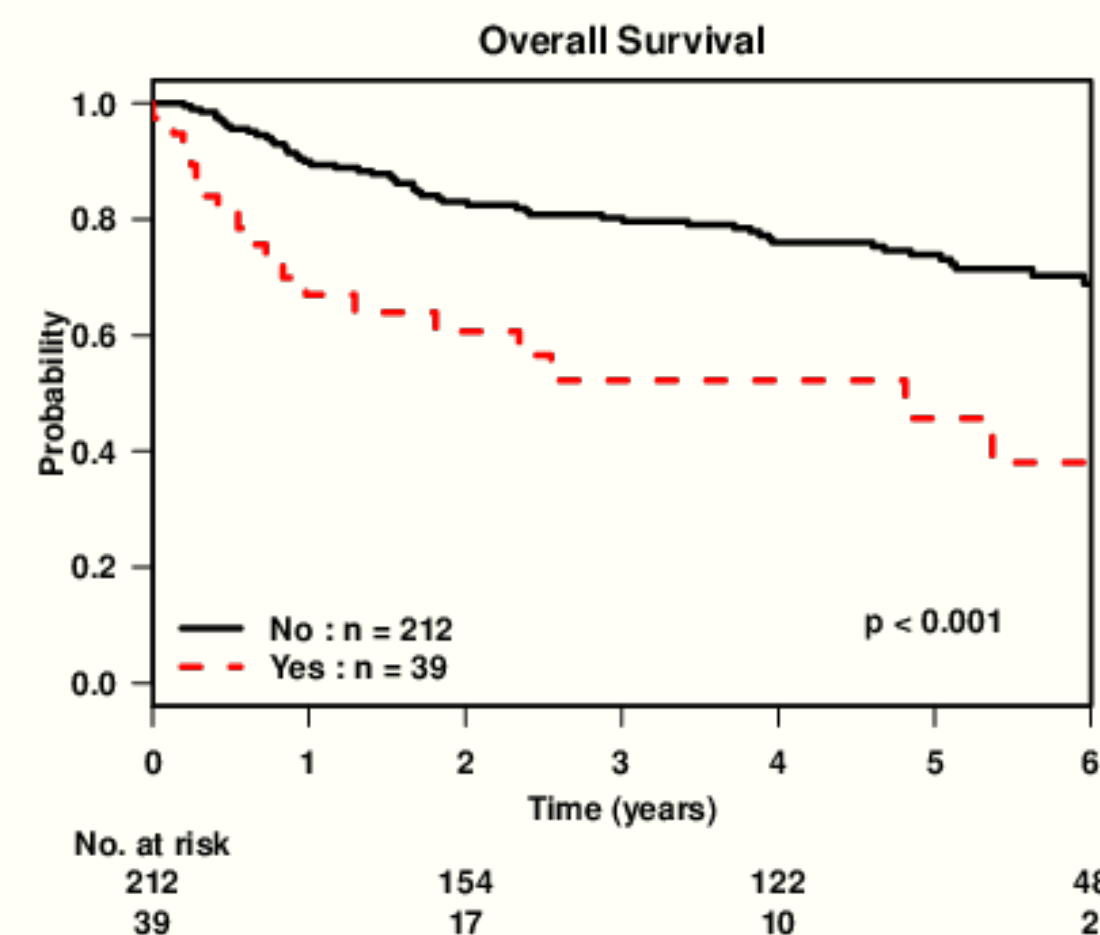
Conclusion: Sarcopenia may aid in the prediction of prolonged hospital stay and death in patients who are candidates for major head and neck surgery.

Introduction

- Sarcopenia is one of the hallmarks of aging
- Sarcopenia is defined by progressive and generalized loss of skeletal mass and strength with the risk of adverse outcomes
- Identification of sarcopenia pre-operatively may help predict adverse events in the post-operative period in patients undergoing head and neck cancer (HNC) surgery

Results

- 251 subjects enrolled
- Sarcopenia was present in 15.6% (n=39) subjects
- Patients with sarcopenia were more likely to be older (p=0.001), female (p=0.001), have a lower body mass index (p=0.001), and lower pre-operative hemoglobin (p<0.001)
- On univariate analysis, the presence and severity of sarcopenia was associated with the development of medical complications (p=0.029), higher grade of complications (p=0.032), length of hospital stay (p=0.015), and overall survival (p=0.001)
- On multivariate analysis, sarcopenia was associated with a longer length of hospital stay (beta=0.32 [95% CI: 0.19-0.45], p<0.001) and worse overall survival (HR=2.21 [95% CI: 1.01-4.23], p=0.017).



Sociodemographic, clinical, and treatment related variables for the overall cohort and by sarcopenia status					
Covariate	Full Sample (n=251)	No sarcopenia (n=123)	Pre-sarcopenia (n=87)	Sarcopenia (n=39)	p-value
Age (years)					0.001
Mean (sd)	67.4 (9.4)	65.2 (8.3)	67.1 (9.7)	75.2 (8.4)	
Sex					0.001
Female	58 (23)	3 (2)	37 (43)	18 (46)	
Male	191 (77)	120 (98)	50 (57)	21 (54)	
BMI (kg/m ²)					0.001
Mean (sd)	26.9 (5.6)	29.9 (5.2)	24.6 (4.4)	22.9 (4.5)	
Comorbidity Score					0.041
None/Mild	154 (62)	69 (56)	63 (72)	22 (56)	
Moderate/Severe	95 (38)	54 (44)	24 (28)	17 (44)	
Smoking status					0.98
Quit/Non-smoker	201 (81)	100 (81)	70 (80)	31 (79)	
Current	48 (19)	23 (19)	17 (20)	8 (21)	
Clinical stage					0.84
0/I/II	62 (32)	31 (33)	22 (34)	9 (27)	
III/IV	131 (68)	64 (67)	43 (66)	24 (73)	
Missing	56	28	22	6	
Operative hours					0.77
Mean (sd)	9.2 (2.6)	9.2 (2.5)	9.3 (2.9)	9 (2.5)	
ASA					0.43
1-2	25 (10)	15 (12)	8 (10)	2 (5)	
3-4	218 (90)	105 (88)	76 (90)	37 (95)	
Missing	6	3	3	0	

Discussion

- The impact of sarcopenia on surgical and oncologic outcomes in patients with HNC has lagged behind other disease sites
- Existing studies have associated sarcopenia with wound complications, medical complications, readmission, longer ICU stays after surgery, worse overall and recurrence free survival^{2,3,4}
- Screening for vulnerabilities, particularly in older patients, is important in order to develop interventions to reduce complications and length of stay
- Prehabilitation strategies have resulted in lower rates of post-operative morbidity and decreased length of stay
- It is unclear whether prehabilitation would benefit sarcopenic patients

Conclusions

- Sarcopenia was an independent predictor of several adverse post-operative outcomes in our cohort of older patients undergoing major head and neck surgery
- Whether it can be easily adapted to clinical practice has yet to be determined.

References

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