

Patient-Reported Post-Radiotherapy Fatigue and Sleep Symptomatology in Oropharyngeal Cancer Patients

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Introduction

- 2024 will have over 58,000 new cases and over 12,000 deaths from oral cavity and pharyngeal cancers in the US.
- The overall prognosis is favorable with radiation therapy (RT) with or without chemotherapy.
- · Improvements in RT such as intensitymodulated radiotherapy (IMRT) have led to lower collateral damage, but radiation toxicity still harms quality of life.
- · An often-overlooked outcome of these side effects is sleep disturbance.
- · Fatigue, drowsiness, and sleep disturbances can lead to disruption in therapy.
- Patients complete the MD Anderson Symptom Index (MDASI) for baseline assessment and survivorship monitoring.
- · The MDASI head and neck (MDASI-HN) questionnaire subscale is a validated PRO measure for the severity of head and neck symptoms and their interference with daily living.
- We are thus uniquely set up to analyze RT-induced fatigue, drowsiness, and sleep disturbances in oropharyngeal cancer (OPC) patients.

each item. Core items:	NOT PRESENT 0 1 1 2 1 3 1 4 1 5 1 6 1 7 1						. 8	AS BAD AS CAN IMAGE			
1. Your pain at its WORST?	0	0	0	0	0	0	0	0	0	0	0
Your fatigue (tiredness) at its WORST?	0	0	0	0	0	0	0	0	0	0	0
3. Your nauses at its WORST?	0	0	0	0	0	0	0	0	0	0	0
4 Your disturbed sleep at its WORST?	0	0	0	0	0	0	0	0	0	0	0
Your feelings of being distressed (upset) at its WORS	T? O	0	0	0	0	0	0	0	0	0	0
 Your shortness of breath at its WORST? 	0	0	0	0	0	0	0	0	0	0	0
 Your problem with remembering things at its WORST? 	9 0	0	0	0	0	0	0	0	0	0	0
Your problem with lack of appe at its WORST?	tite ()	0	0	0	0	0	0	0	0	0	0
 Your feeling drowsy (sleepy) in its WORST? 	0	0	0	0	0	0	0	0	0	0	0
10. Your having a dry mouth at its WORST?	0	0	0	0	0	0	0	0	0	0	0
11. Your feeling sad at its WORST	0	0	0	0	0	0	0	0	0	0	0
12. Your womiting at its WCRST?	0	0	0	0	0	0	0	0	0	0	0
13. Your numbness or tingling at its WORST?	0	0	0	0	0	0	0	0	0	0	0

Methods

- Pathologically confirmed OPC patients who completed a curative intent course of RT at The University of Texas MD Anderson Cancer Center (MDACC) were eligible for the study.
- · All included patients completed the MDASI-HN questionnaire at diagnosis and at least one time-point corresponding to clinical post-RT follow-up.
- · MDASI-HN individual items (fatigue; sleepiness; drowsiness) are coded using a 10-point scale where a score of 0 corresponds to "not present" and a score of 10 corresponds to "as bad as you can imagine."
- Item scores were converted into none (score: 0), mild (score: 1-2), moderate (score: 3-5), and severe (score: 6-10) categories.



Table 1: Patient Demographics					
Gender, Total (%)					
Male	1045 (90)				
Female	113 (10)				
Median Age (IQR)	61 (55-67)				
Race, Total (%)					
Caucasian	1070 (92)				
African American	27 (2)				
Asian	10(1)				
Other	51 (5)				
Tumor Site, Total (%)					
Base of Tongue	530 (46)				
Tonsil	520 (45)				
Other	108 (9)				
Concurrent Chemo, Total (%)					
Yes	844 (73)				
No	314 (27)				

Results

- · At baseline, most patients reported zero fatigue, drowsiness, and sleep disturbances.
- At the end of RT, most patients reported severe fatigue, drowsiness, and sleep disturbances. Moderate fatigue, drowsiness, and sleep disturbance also reached its peak.
- · Following RT, moderate and severe fatigue, drowsiness, and sleep disturbance steadily decreased until reaching their nadir at 18-24 months post-RT.
- Severe and moderate baseline fatigue, drowsiness, and sleep disturbances had lower overall survival when compared to mild and zero fatigue, drowsiness, and sleep disturbances.

Figure 2: Percentages of Patients in Severe, Moderate, Mild, and No Fatigue



Figure 3: Percentages of Patients in Severe, Moderate, Mild, and No Drowsiness



Figure 4: Percentages of Patients in Severe, Moderate, Mild, and No Sleep Disturbance



Figure 5: Trends of Medians of Fatigue, Drowsiness, and Sleep Scores

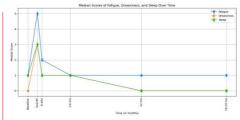
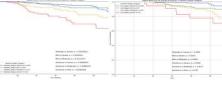
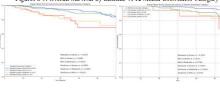


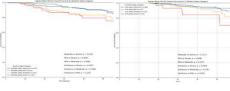
Figure 6-7: Overall Survival by Baseline vs 12 Month Fatigue Categor



Figures 8-9: Overall Survival by Baseline vs 12 Month Drowsiness Category



Figures 10-11: Overall Survival by Baseline vs 12 Month Sleep Category



Conclusions

- Our study suggests that patients suffer worse fatigue, drowsiness, and sleep as they undergo
- · Worse fatigue, drowsiness, and sleep are associated with lower overall survival.
- · Worse fatigue and drowsiness are also associated with lower progression-free survival.
- Our future research will focus on identifying patients at the highest risk of developing these symptoms and targeting them for early treatment to improve prognosis.

Acknowledgments

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