THE ASSOCIATION BETWEEN GLUCOCORTICOID RECEPTOR SENSITIVITY AND FATIGUE IN PATIENTS WITH HEAD AND NECK CANCER

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INTRODUCTION

Increased new cases of head and neck cancer (HNC)

Significant fatigue during and after cancer treatment

Positive link between inflammation and the development of fatigue

Negative regulation of inflammation: glucocorticoid receptor (GR)





PURPOSE

To examine whether decreased glucocorticoid receptor (GR) sensitivity may contribute to the increased inflammation and fatigue in patients with head and neck cancer (HNC) during treatment

METHODS

Design: pre- to 1-month post-IMRT

Fatigue: Multidimensional Fatigue Inventory-20

GR function

Covariates: age, gender, race, marital status, smoking, alcohol, BMI, cancer site, stage, treatment, RT does, and HPV status

RESULTS

		Mean (SD) or N (%)
Age		58.8 (10.1)
Sex	Male	55 (71)
Race	White	63 (83)
Marital status*	Married	53 (70)
Smoking status	Never smoker	30 (39)
Alcohol status	Never drinker	38 (51)
Body mass index		24.7 (4.4)
HPV status	Related	40 (52)
Cancer site	Oropharynx	43 (56)
Stage	IV	60 (78)
Treatment	Radiotherapy & Chemotherapy	50 (65)
	Radiotherapy, Chemotherapy & Surgery	15 (19)
Chemotherapy	Cisplatin	43 (66)
	Carboplatin/Paclitaxel	20 (31)
Radiation dose		67.9 (4.0)
Feeding tubes	Yes	52 (68)

	N	Baseline	1-month post	t-test	P value
Fatigue	76	48.3 (16.3)	53.6 (16.3)	-2.99	0.004
GR sensitivity	77	0.37 (0.06)	0.34 (0.06)	2.44	0.017

	N	Change in Fatigue	95% CI	P value
GR sensitivity unadjusted	76	1.91	(-1.76, 5.58)	0.31
GR sensitivity adjusted	74	3.97	(0.36, 7.57)	0.03
Stratified by HPV status				
GR sensitivity among HPV positive	38	-0.90	(-5.43.3.63)	0.70
GR sensitivity among HPV			(,)	
negative	36	6.55	(1.29, 11.82)	0.01

CONCLUSION

Our findings support our hypothesis that decreased glucocorticoid sensitivity might be linked to high inflammation, which may in turn lead to fatigue.

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- Kristin Higgins, Dong Shin, Nabil Saba, and Matthew Ferris
- Steve Cole, Jeanne Kowalski, Alicia Smith, Karen Conneely, Jennifer Felger, Bhakti Dwivedi, and Thaddeus Pace
- Rebecca Gary, Kathryn Schmitz, and TREC
- Miller Lab, Bobbi Woolwine, and Evanthia Wommack
- Nurses, clinicians, colleagues, students, and PATIENTS
- School of Nursing, Winship, Emory Genetic Core, and ACTSI

MANY THANKS!!!

