

Anxiety in head and neck cancer patients: an under-recognized, clinically relevant comorbidity

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INTRODUCTION

- **Depression and anxiety are both more prevalent in patients with a new diagnosis of head and neck cancer compared to the general population**
- A previous placebo-controlled trial started escitalopram prophylactically at the same time as treatment initiation in head and neck cancer (HNC) patients without depression.¹
 - Rates of depression were reported to be lower in the test group
 - Patients who did not develop depression reported a smaller decrease in quality of life in the treatment group as compared with placebo
- There is limited data assessing depression and anxiety as separate entities in head and neck cancer patients
- No study has assessed which factors are predictive of HNC patients developing psychiatric conditions requiring treatment

METHODS

- Fifty adults with newly diagnosed HNC treated by 4 head and neck oncologic surgeons between 2015-2018
- Surveys administered at initial surgical consultation and at 3 months after treatment completion
- **Primary assessment:** Hospital anxiety and depression scale (HADS), a verified 14-item screening self-assessment tool with half of questions addressing depressive symptoms and half anxiety symptoms ²
- **Secondary assessment:** new psychiatric diagnosis or medication during or after treatment
- Additional survey questions included demographic information and several validated survey tools including the European Organization of Research and Treatment of Cancer Quality of Life (EORTC-QLQ) survey, using the recommended scoring system in which higher scores indicate a poorer quality of life.
- Comorbidities were assessed using the Charlson Comorbidity Index (CCI)³ and complications according to the Clavien-Dindo complication classification (CDCC) system.⁴

RESULTS

Demographic	Value	Frequency	%
Average age	52.4 years (SD +/- 16.59)	-	-
Gender	Female	22	44
	Male	28	56
Race	White	48	48
	Non-white	2	2
Education level	High school equivalent or less	13	26
	College degree or some college	28	56
	Graduate or professional school	9	18
Income	<\$30k/year	14	28
	\$30k-\$100k/year	31	62
	>\$100k/year	5	10
T stage	1 or 2	24	48
	3 or 4	26	52
Cancer Site	Oral cavity ^a	23	46
	Thyroid ^b	12	24
	Oropharynx	8	18
	(HPV+ in oropharynx)	(9)	(89)
	Skin ^c	3	34
	Other ^d	3	2
CCI Average score	3.76 (SD +/- 1.93)	-	-

Table 1. Abbreviated table of patient demographic and cancer characteristics.

	Initial Anxiety Score	F/u Anxiety Score
Age	-	p=0.03 β -0.34 (CI -0.12 – -0.09)
Race	p=0.04 β 0.29 (CI 0.18 – 6.68)	-
Education	p=0.03 β -0.31 (CI -1.88 – -0.10)	-
Site ^a	-	p=0.02 β -0.38 (CI -0.33 – -0.04)
Stage	-	p=0.02 β -0.36 (CI -0.37 – -0.03)
Preexisting psych dx	p=0.02 β 0.34 (CI 0.63 – 6.05)	p=0.03 β 0.35 (CI 0.28 – 1.45)

Table 2. Univariable analysis of demographic/cancer characteristics and hospital anxiety and depression scale (HADS) scores with statistical significance. Dashes indicate nonsignificant factors, and all nonsignificant factors are listed to the right.

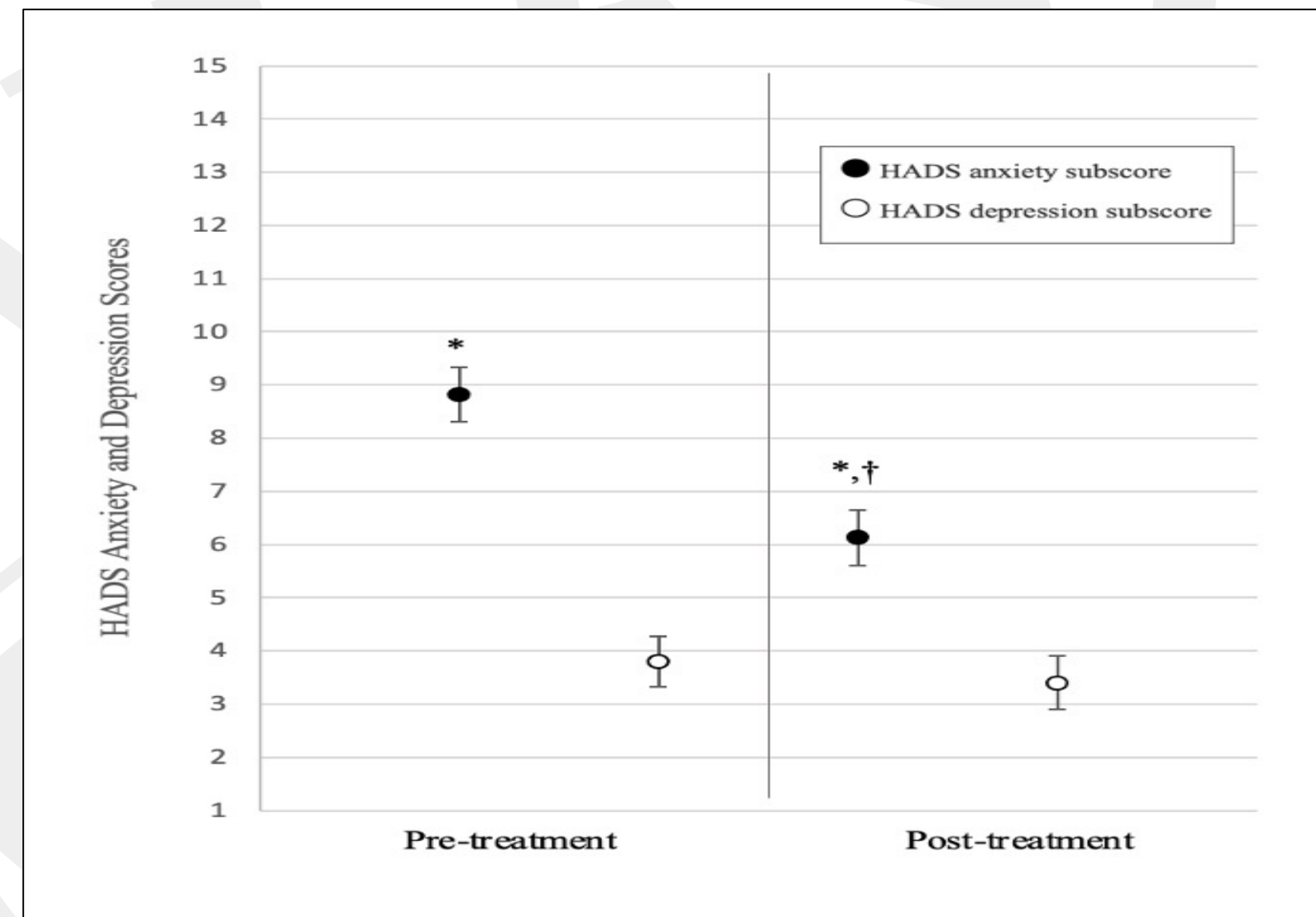


Figure 1. Average Hospital Anxiety and Depression Scale (HADS) anxiety (black dot) and depression (white dot) scores. Anxiety scores were significantly higher than depression scores at each time point (p<.01, p<.01 respectively). At follow up there was a significant decrease in anxiety scores as compared to presenting anxiety scores (p<.01), but no change in HADS depression scores (p=0.64). Bars represent standard error.

Factors not significantly associated with anxiety scores, not listed in Table 2:

- Sex
- Income
- Religion
- Employment status
- Charlson Comorbidity Index Score
- Pre-existing psychiatric medication
- Surgery as treatment
- Chemotherapy as treatment
- Radiation as treatment
- Surgeon
- Clavien-Dindo Complication Classification Score
- Progression of Disease

No demographic or clinical features were associated with pre- and post-treatment depression scores.

RESULTS (CONTINUED)

- 80% of patients completed initial and final survey
- 5x more patients scored in abnormal range (score of 8 or higher) on the HADS anxiety score as compared to the depression score at their initial visit (62% and 12%, respectively)
- For initial HADS anxiety score, multivariable linear regression analysis showed that education level impacted anxiety score (p=.04, β=-.27, 95% CI = -1.72 – -.03), but was not significant on follow up
- A high anxiety score at presentation was predictive of the development of a new psychiatric diagnosis or need for a psychiatric medication during the treatment period (Table 4)

	Initial Anxiety Score	F/u Anxiety Score	Initial Depression Score	F/u Depression Score
NCCN distress ^a initial	r(26) = .70, p<.01	-	r(26) = .45, p=.02	-
QLQ initial	r(48) = .54, p<.01	-	r(48) = .67, p<.01	-
QLQ at f/u	-	r(38) = .21, p=.19	-	R(38) = 0.45, p<0.01

Table 3. Pearson Correlation between distress, quality of life and Hospital Anxiety and Depression Scale (HADS) scores.

	New psych dx at f/u (95% CI)	New psych med at f/u (95% CI)
Initial HADS Anxiety Score	p<.05 β 0.294 (CI 0.03 – 6.41)	p<.01 β .405 (CI 1.08 – 5.98)
Initial HADS Depression Score	p=.69 B .06 (CI -2.30 – 5.40)	p=.11 β .24 (CI -.42 – 3.79)

Table 4. Univariable linear regression between initial anxiety scores and new psychiatric diagnosis or medication.

CONCLUSIONS

- **Anxiety symptoms were significantly more prevalent than depression symptoms in patients with HNC**
- **Less education and pre-existing psychiatric conditions were associated with higher anxiety scores at presentation, and young patients with low-stage thyroid cancer were more prone to anxiety at follow up**
- **Patients with higher anxiety scores at presentation were more likely to be diagnosed with a psychiatric condition or need psychiatric medication during cancer treatment**
 - **High HADS anxiety scores at presentation may warrant prophylactic treatment with antidepressants/anxiolytics – more research is warranted**

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