Distress in a High-Risk Head and Neck Cancer Population as Evaluated by the Hospital Anxiety and Depression Scale (HADS)

Rachel A. Kominsky, BS[1], Bianca R. Lewis, BA[2], Jeffrey C. Liu, MD[1], Karen Y. Mechanic, MD[2]

[1]Department of Otolaryngology, Lewis Katz School of Medicine at Temple University, Philadelphia, PA

[2]Department of Psychiatry, Fox Chase Cancer Center, Philadelphia, PA

ABSTRACT

Objective: To identify characteristics within a high-risk head and neck cancer patient population that associate with depression and anxiety

Study Design: Retrospective chart review

Methods: A database of HADS scores collected during psychiatric evaluations at a comprehensive cancer center from 2011-2015 was reviewed. The electronic medical records of these patients were analyzed to collect information regarding demographics, initial disease severity, treatment course, and psychiatric evaluation. Statistical analysis was performed to identify factors that most affected HADS scores.

Results:
42 patients who had been diagnosed with head and neck cancer were available for study. Many patients provided HADS data more than once during different times of their care. Patients experienced the highest levels of anxiety and depression in the 12-24 months after treatment. Other factors were shown to be associated to increased HADS score including patients that continued smoking and/or alcohol consumption, tracheostomy tube or gastrostomy tube during treatment, tumor stage. Subsite alone did not associate with HADS scores.

Conclusions: Not all populations of head and neck cancer patients experience the same amount of anxiety and depression. Certain factors can be used to predict the emergence of increased emotional distress in patients. These include time from the end of treatment, tumor stage at diagnosis, smoking and drinking status, as well as tracheostomy and G-tube dependence.

INTRODUCTION

Cancer remains a major public health concern in the United States, a disease that despite advances in treatment, continues to have high mortality rates and expanding prevalence.

One concern through cancer treatment is the psychosocial health of each individual. Risk for depression among those with a cancer diagnosis is higher than in the general population, with an estimated 38% prevalence of major depression. Additionally, it has been shown that only patients who meet screening criteria for emotional distress, including depression benefit from intervention, rather than simply including mental health treatment as standard of care, suggesting that the correct population to which healthcare providers offer mental health services has yet to be determined. It's important to define a population of cancer patients who would benefit most from mental health intervention.
One of the most extensively validated indices of emotional distress, is the Hospital Anxiety Distress Score (HADS). This scale was developed to identify symptoms of anxiety, depression, and psychological distress among medically ill patients in the setting of hospital outpatient clinics and does not take physical symptoms into account. There are subscales HADS-A (anxiety) and HADS-D (depression).

This retrospective study looked at psychosocial distress for patients with varying types of cancer, all treated at Fox Chase Cancer Center.

METHODS

A retrospective chart review was conducted of patients with HNSCC who were at risk for anxiety and depression, and referred to psychiatry from 2011 – 2015.

For patients who were evaluated in during this time period, a HADS score was collected at each psychiatric visit as well as NCCN Thermometer Data.

Data collected for each patient:
1. Demographic information
   - Age, gender, ethnicity, marital status
2. Disease information
   - Subsite, TMN, stage at diagnosis, treatment (surgery, chemotherapy, radiation)
3. Disease course
   - Tracheostomy, G-tube
   - Recurrence, site of recurrence, current disease status
   - Secondary cancers
4. Alcohol and tobacco use
5. Mental health and psychiatric history
6. HADS score
7. NCCN Thermometer rating

Analysis
Each patient visit was analyzed as a unique data point and included in both univariate and multivariate analysis.

RESULTS

DEMOGRAPHICS

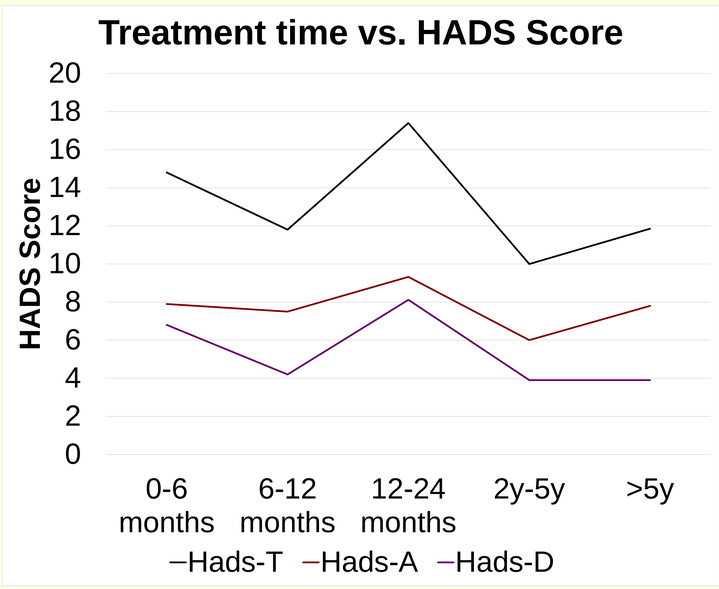
42 patients
- **Gender: 27 male, 15 female**
- **Ethnicity: 35 Caucasian, 3 Hispanic, 2 Asian, 1 African American, 1 Other**
- **Marital Status: 23 Married, 14 Divorced, 2 Partner >5 years, 2 Widowed, 1 Single**
- **Age distribution**

20-29	30-39	40-49	50-59	60-69	70-79	80-89
1	1	11	10	12	6	1

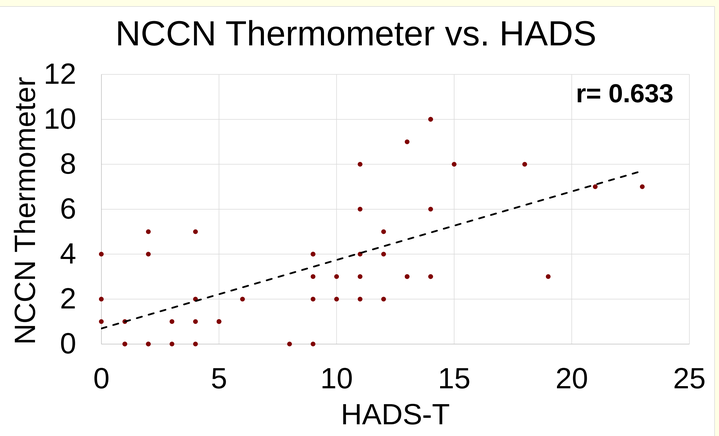
TREATMENT TIME vs. HADS SCORE

Category	HADS-T	HADS-A	HADS-D
0-6 mo	14.8	7.9	6.8
6-12 mo	11.8	7.5	4.2
12-14 mo	17.4	9.32	8.12
2y-5y	10	6	3.9
>5y	11.85	7.8	3.9

HADS-T = HADS Total (combined anxiety and depression scores)



NCCN THERMOMETER vs. HADS SCORE



DISCUSSION

One of the key elements of treating depression in cancer patients is to identify a group of patients who are at risk and to identify when that risk is the highest. It is known that cancer patients who are depressed benefit from a specific, targeted intervention rather than routine mental health treatment as standard of care. In this study, it was found that one year after treatment, patients experienced increased levels of anxiety and depression on the HADS. Based on this finding, patients may benefit from a specific intervention to address mental health at that time. This could be added to the survivorship care that patients currently receive.
The NCCN has emphasized that distress has become the "sixth vital sign" and perceived distress has been shown to predict 5 year survival. For this reason, the NCCN Thermometer ratings, an indicator of perceived distress, are vital in assessing a patient's mental and emotional well-being. The positive correlation of the NCCN thermometer ratings with HADS scores further validates the NCCN Thermometer, matching perceived distress with measured distress.

CONCLUSION

Cancer of the head and neck is a unique disease, often with treatment that often affects functions such as eating, breathing, and communicating. For this reason, patients with head and neck cancer often present with depression throughout a patient's cancer diagnosis and treatment, as well as after treatment.
This study is comprised of a focused "at risk" population of patients referred for evaluation but the analysis of the cohort has shown promising results in identifying a temporal relationship treatment and increased emotional distress.
We have found the NCCN Distress Thermometer to be a tool that corroborates results of the HADS, underlining the importance of its use.
Further investigation will look at additional elements of the study cohort to analyze effects on emotional distress in an at-risk population.

REFERENCES

1. Siegel R, Ma J, Zou Z, et al. Cancer statistics, 2014. CA Cancer J Clin 2014;64:9–29.
2. Hart SL, Hoyt MA, Diefenbach M, Anderson DR, Kilbourn KM, Craft LL,et al. Meta-analysis of efficacy of interventions for elevated depressive symptoms in adults diagnosed with cancer. J Natl Cancer Inst 2012;104:990–1004.
3. Jeon HJ, Shim EJ, Shin YW, et al. Discrepancies in performance status scores as determined by cancer patients and oncologists: Are they influenced by depression? Gen Hosp Psychiatry 2007;29:555–561.
4. Krebber AMH, Buffart LM, Kleijn G, Riepma IC, Bree R, Leemans CR, Becker A, Brug J, van Straten A, Cuijpers P, Verdonck-de Leeuw IM: Prevalence of depression in cancer patients: a meta-analysis of diagnostic interviews and self-report instruments. Psycho-Oncology 2014, 23:121–130.
5. Massie MJ *(2004) Prevalence of depression in patients with cancer. J Natl Cancer Inst Monogr* ***32****:57–71*
6. Yeh ML, Chung YC, Hsu MY, Hsu CC. Quantifying Psychological Distress among Cancer Patients in Interventions and Scales: A Systematic Review. Curr Pain Headache Rep. 2014;18:399.

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