**INTRODUCTION**

The average head and neck cancer patient sees a large number of healthcare specialists during their cancer journey. Belonging to a general practitioner, an otolaryngologist, and multiple other specialists. The patient must undergo multiple procedures and diagnostic tests before any therapeutic intervention can take place. Uncoordinated timing of the diagnostic and therapeutic process is a significant cause for delay in treatment. If done in sequence, the required steps can take a long time to complete. If they are coordinated to be done in parallel, the overall time until treatment can be decreased substantially.

Research on the affect of delays in treatment in the outcomes of head and neck cancers is scarce. Forin et al. looked at head and neck tumors and found an increase in rates of local recurrence as well as poor survival when there was a delay of greater than 40 days from meeting the radiation oncologist to the beginning of radiotherapy. Brougha et al. found that large tumors had a shorter specialist delay than small tumors. Patel et al. found that delays were increased for patients receiving primary radiotherapy compared to those receiving surgical therapy.

There have been attempts to expedite the diagnostic process in order to reduce treatment delays. Nouraei et al. created an automated database to address the delay of pathology and radiology reports. They reported an increase in efficiency by 60% with the system, noting that there was a significant reduction in failed treatment meetings. Extrapolation of this result gives rise to the theory that establishing a formal tracking system for all aspects of care will increase overall efficiency. This is where established patient navigation systems can play an integral role.

Patient navigation is an emerging concept that is defined by the American College of Surgeons as the "individualized assistance offered to patients, families, and caregivers to help overcome health care system barriers and facilitate timely access to quality medical and psychosocial services. The patient navigator – or “cancer care coordinator” – is an advocate for patients. The coordinator serves as a centralized resource for patient guidance, makes sure that the patient is set up with all necessary appointments, follows up on missed appointments and coordinates care between the various hospital services. This study will be a much-needed addition to the scarce literature on head and neck cancer treatment delay and the role of the cancer care coordinator.

**METHODS AND MATERIALS**

We queried the Tumor Registry and Head and Neck Cancer Tumor Board using ICD9 codes to aid in developing a retrospective and prospective cohort of veterans at the Washington, DC VA Medical Center who were diagnosed with head and neck cancer after December 2006. We identified a total of 182 subjects, with 125 and 57 subjects before and after the hiring of the cancer care coordinator, respectively.

Critical dates including initial visit, biopsy, pathological diagnosis, treatment initiation, completion as well as the age and race of the subject, type and stage of the cancer were included for analysis. For each subject, these dates were recorded in a Microsoft-based database. The list of subjects was then separated into two groups based on whether they were diagnosed before or after the implementation of cancer care coordination (May 2012).

Means and standard deviations were calculated between the two groups based on three parameters: 1) Time from pathological diagnosis to initiation of treatment, 2) Time from surgery to the start of post-operative chemotherapy and/or radiation, and 3) Time from initiation of radiation to its completion or discontinuation. These parameters were compared overall and also compared after being divided by stages I/II and stages III/IV. Twelve patients in the Pre CCC and 6 patients in the Post CCC groups were excluded due to refusal to continue or non-completion.

P-values were calculated using unpaired t-test and used as the basis for our interpretation and conclusions.

**RESULTS**

Total of 182 patients were identified with head and neck cancer diagnosis after December 2006. The patients were divided into two groups: Pre Cancer Care Coordinator (CCC) and Post Cancer Care Coordinator (CCC). There were 125 patients in the Pre CCC group and 57 patients in the Post CCC group.

The overall means and standard deviations and the means and standard deviations for Stages I/II vs. Stages III/IV were calculated between the two groups based on three parameters: 1) Time from pathological diagnosis to initiation of treatment, 2) Time from surgery to the start of post-operative chemotherapy and/or radiation, and 3) Time from initiation of radiation to its completion or discontinuation. Chart 1. The mean days from diagnosis to treatment in the Pre CCC group were 46.22 and 38.8 (p=0.002 with 95% CI [4.25 to 13.12]), 21; 71.94 and 50.5 (p=0.0187 with 95% CI [1.37 to 13.62]). Results for Stage III/IV were: 44.62 and 35.93 (p=0.002 with 95% CI [1.25 to 13.10]), 21; 71.94 and 50.5 (p=0.0187 with 95% CI [1.37 to 13.62]).

**CONCLUSIONS**

Cancer Care Coordination or Navigation has become an integral component of the multi-disciplinary approach to care of patients with head and neck cancer. In our data we found that there is a trend at decreasing number of days to treat, number of days from surgery to initiation of adjuvant therapy, and decrease in number of days for completion of adjuvant therapy indicating decrease in interruptions. Our overall data was not statistically significant mainly due to our sample size. We are continuing to collect prospective data and are consistently showing decreasing delays compared to patients diagnosed prior to May 2012.

In addition, the veteran population has a significantly higher percentage of patients who present at Stages III/IV. This reality impacts the data, in that higher stage patients require more involved and complex care. In fact, when the data is broken down we see that delays were longer for patients diagnosed after December 31, 2006. The patients were divided into two groups: Pre Cancer Care Coordinator (CCC) and Post Cancer Care Coordinator (CCC). There were 125 patients in the Pre CCC group and 57 patients in the Post CCC group.

The demographics of the population can be seen in Table 1. The mean days from diagnosis to treatment in the Pre CCC and Post CCC groups were 48 and 50, with standard deviation of 11.5 and 6.5 (p=0.17), 21; 71.94 and 50.5 with standard deviations of 83 and 8.5 (p=0.35). The data was the analyzed after the groups were divided based on stage: Stage I/II vs. Stage III/IV in each group. All three parameters were re-evaluated. Results can be found in Table 2 and Chart 2.

**REFERENCES**