Managed Care Insurance is associated with overall improved survival in Head and Neck Cancer patients.

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Abstract

Our hypothesis is that coordination of care in a managed care model results in overall improved survival. We sought to prove this by performing a retrospective chart review of patients diagnosed with head and neck cancer and received primary treatment in our institution. Overall survival for each type of insurance were compared. Patients with managed care had improved survival compared to other groups.

Background

Previous studies have shown that head and neck cancer (HNCA) patients without insurance present at a later stage and with greater tumor burden. Furthermore, uninsured patients and even patients with Medicaid insurance present later and have a higher risk of death even after diagnosis. Our hypothesis is that the coordination of care in a managed care model results in overall improved survival.

Materials and Methods

We performed a retrospective chart of the head and neck from 1990 to 2013. 792 patients were included and received primary treatment at Henry Ford Hospital. Institutional Review Board (IRB) was obtained and charts were reviewed for patient age, gender, site of cancer, AJCC stage at time of diagnosis, type of insurance, and survival status. Our endpoint was overall survival time. This was calculated from the date of diagnosis to the last known contact date. The categories of insurance included Fee for service, Health Maintenance Organization (HMO), Medicaid/uninsured, and Other. The overall survival distributions are compared between insurance types using a log-rank test. Stage at diagnosis was compared between insurance groups.

Results

792 patients were included in the analysis. The interactions between Medicaid/uninsured at AJCC stage 3 and between HMO at stage 4 are statistically significant overall. Patients diagnosed with stage 3 HNCA with HMO (HR, 0.79; 95% CI, 0.059-0.542) had significantly greater overall survival compared with patients with stage 3 HNCA with Medicaid or were uninsured. 628 patients were male and 169 patients were female. An overwhelming 784 patients reviewed had the diagnosis of laryngeal cancer. This diagnosis was confirmed by reviewing the charts of 40 patients determined by random number generator. As expected, a greater proportion of patients with Medicaid or no insurance presented with advanced cancer stage. Figure 1 details distribution of types of insurance and stage at presentation. This confirms previously reported data.

Tables

Table 1. Stage Distribution at Presentation

Stage	HMO	Fee for Service	Medicaid / Uninsured	Other	HFMG Confined
0	14 (12.1%)	33 (8.2%)	13 (10.4%)	2 (3.9%)	18 (17.7%)
1	43 (37.1%)	99 (24.6%)	14 (11.2%)	7 (13.5%)	32 (31.4%)
2	17 (14.7%)	65 (16.2%)	16 (12.8%)	5 (9.6%)	15 (14.7%)
3	8 (6.9%)	46 (11.4%)	16 (12.8%)	6 (11.5%)	12 (11.8%)
4	24 (20.7%)	101 (25.1%)	48 (38.4%)	24 (46.2%)	19 (18.6%)
Unknown	10 (8.6%)	58 (14.4%)	18 (14.4%)	8 (15.4%)	6 (5.9%)

Table 2. Comparison of Type of Insurance by Stage

Insurance Type	Stage	Hazard Ratio	95% CI
Medicaid/uninsured vs Fee for Service	3	3.217	1.732, 5.977
Medicaid/uninsured vs HFMG Confined	3	6.781	2.448, 18.785
HMO vs Medicaid/uninsured	3	0.179	0.059, 0.542
Medicaid/uninsured vs Other	3	4.545	1.502, 13.754
HMO vs Fee for Service	4	0.652	0.377, 1.129
HMO vs HFMG Confined	4	0.501	0.246, 1.018
HMO vs Medicaid/uninsured	4	0.391	0.217, 0.706
HMO vs Other	4	0.393	0.204, 0.755

Table 3. Survival by Insurance Type

Insurance type	# Died	# Alive	Median survival time in months (95% CI)
HMO	59	56	106.6 (64.4, 146.9)
Fee for service	240	158	75.5 (62.4, 87.6)
Medicaid/uninsured	90	35	28.2 (20.2, 34.2)
Other	43	9	33.2 (19.1, 49.3)
HFMG Confined	44	58	155.1 (106.7, 194.2)

Acknowledgement

Meredith Mahan and Heather Olden for statistical analysis.

Figures

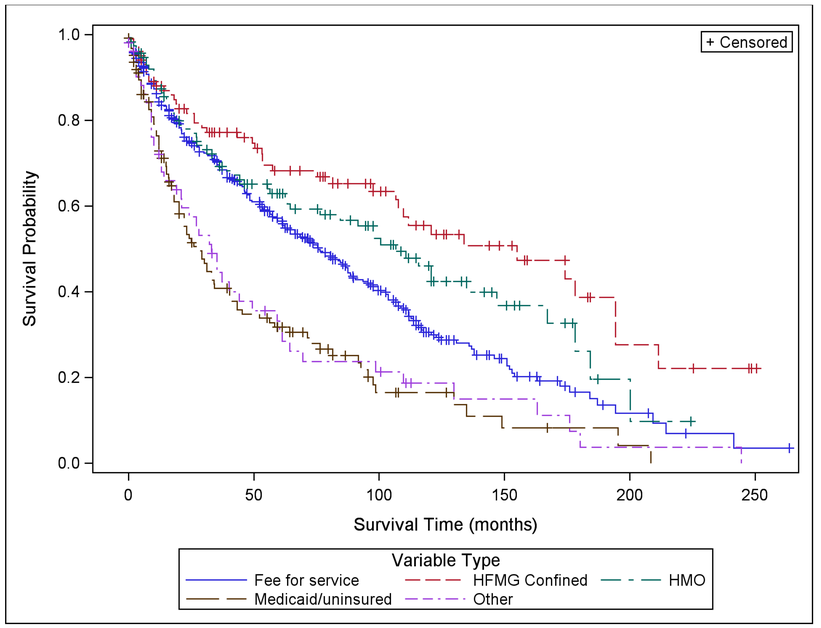

Figure 1. Kaplan-Meier Curves overall survival stratified by insurance type

Discussion

The results of our study confirm previously published data that patients without insurance present at advanced stage of disease and have an overall worse survival compared to those who have insurance. Our study is the first to explore the impact of managed care insurance on survival of patients with head and neck. Our study also demonstrates that even after diagnosis, patients at similar stage without insurance are still associated with poor survival compared with those with private insurance. This may be because of the coordination of care afforded to those with managed care insurance.

Conclusion

Contemporary head and neck cancer treatment require multidisciplinary care and significant coordination of care.
Patients with HMO had improved overall survival compared to the other insurance types. This is likely because of the coordination of care in managed care model that leads to improved outcome.

References

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