

Overall and disease-specific survival associated with consolidated multidisciplinary care in head and neck cancer: a retrospective cohort study

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Abstract

Our retrospective cohort study compared overall and disease-specific survival among 3081 patients diagnosed with stage I-IVB head and neck cancer (HNC) in the oral cavity, oropharynx, hypopharynx, nasopharynx, or larynx before (2009-

2012, 1431 patients) and after (2013-2017, 1650 patients) multidisciplinary program implementation.

Between-group differences in overall and disease-specific survival one, two, and three years after diagnosis were assessed with Kaplan-Meier curves and Cox proportional hazard regression

models, adjusted for age, gender, race, comorbidity burden, smoking status, tumor site, stage, p16 status for oropharyngeal squamous cell cancer (OSCC), and initial treatment modality.

Before implementation, patients had poorer overall survival (HR: 1.20; 95% CI: 1.02, 1.40) and disease-specific

survival (HR: 1.26; 95% CI: 1.03, 1.54) three years after diagnosis. These associations were more pronounced for hypopharyngeal, nasopharyngeal, and laryngeal cancers and stage III-IVB cancers. Time from diagnosis to treatment initiation was unchanged and speech pathology consultations increased after implementation.

Background

Before implementation, patients diagnosed with HNC were managed at local medical centers and referred to a regional HNC-specific tertiary care hub at the discretion of their primary otolaryngologists. In 2013, we consolidated care for patients with HNC to a weekly multidisciplinary clinic (MDC) at the hub. Each patient at the MDC is evaluated by fellowship-trained head and neck surgeons, radiation oncologists, medical oncologists, speech and language pathologists, dietitians, and social workers. Providers from all hubs then convene virtually to discuss all patients, joined by neuroradiology, nuclear medicine, and pathology providers expert in HNC. Approximately 25 patients are prospectively reviewed at each well-attended weekly case conference. Treatment plans are proposed by presenting surgeons and approved or modified by participating physicians.

Results

Before implementation, patients were less likely to present with advanced (III-IVB) tumors and to receive primary treatment with surgery alone or with adjuvant therapy than they were after implementation. No meaningful pre-post implementation differences were observed in overall or disease-specific survival one and two years after diagnosis. Three years after diagnosis, pre-implementation patients had slightly higher overall mortality (HR, 1.20; 95% CI, 1.02-1.40) and disease-specific mortality (HR, 1.26; 95% CI, 1.03-1.54), compared with post-implementation patients. These effects were more pronounced among patients with advanced (stage III/IV) disease. After implementation, the proportion of patients receiving speech and language pathology consultations increased from 28.6% to 48.8% (P < .001).

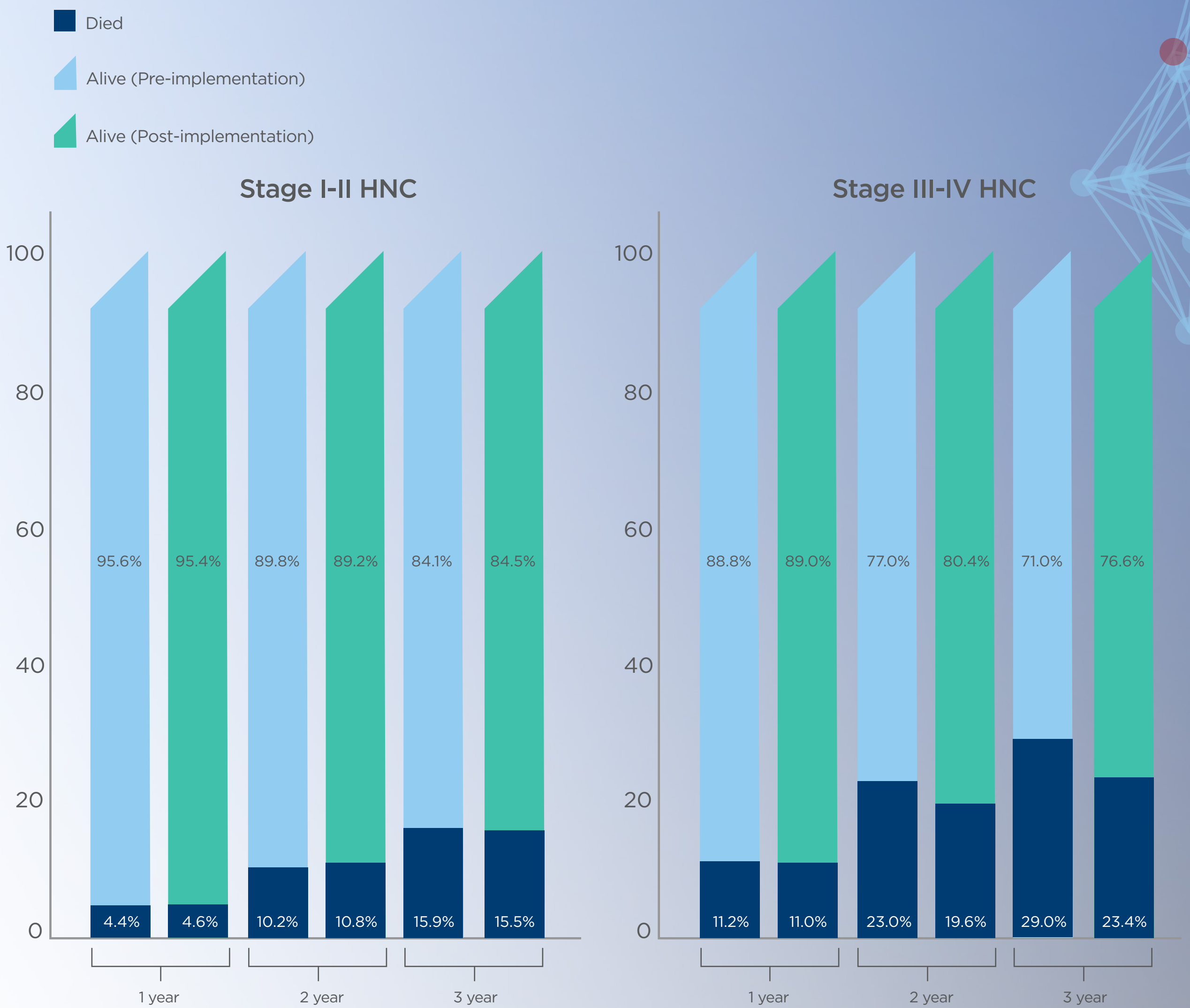
Learning objectives

How does the development and ongoing support of a multidisciplinary clinic and case conference affect patient survival?

What specific practice changes contribute to improved outcomes?

Conclusion

Implementation of a multidisciplinary clinic and case conference was associated with improved outcomes among patients with HNC, predominantly among patients with advanced stage tumors. The findings confirm the value of multidisciplinary team management in HNC, a relatively low volume but complex group of cancers.



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