Acceptance of Major Surgical Procedures and Quality of Life Among Long-term Survivors of Advanced Head and Neck Cancer

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Objective: To evaluate the acceptance of major surgical procedures and quality of life among long-term survivors of advanced head and neck cancer treated at a single institution.

Design: Cross-sectional analysis of a consecutive series of patients.

Setting: Tertiary care cancer center.

Patients: Participants had advanced (T3 and T4) head and neck cancer, had undergone a surgical procedure with or without postoperative radiotherapy, and had a minimum disease-free survival duration of 1 year. Eligible participants completed a questionnaire about their attitudes toward long-term outcomes and the University of Washington Quality of Life Questionnaire (UW-QOL).

Main Outcome Measure: Descriptive analyses of the results and comparisons of the scores for each UW-QOL domain.

Results: A total of 273 patients were included in the study. Most were men (74.4%), with a median age of 56 years. The tumor site was the oral cavity in 101 patients (37.0%), larynx in 91 (33.3%), oropharynx in 64 (23.4%), and hypopharynx in 17 (6.2%). There were 167 patients (61.2%) with T3 tumors and 106 (38.8%) with T4 tumors. Adjuvant radiotherapy was performed in 153 patients (56.0%). Global quality of life was considered good to excellent by 162 patients (59.3%), and the mean UW-QOL composite score was 79.3. Most patients (91.2%) reported that they would undergo the same treatment if they had it to do again, and 95.6% reported that they would not like to exchange their present outcome for another treatment option with a lower chance of cure but with a possibly improved quality of life.

Conclusion: In this series, the vast majority of patients considered a radical surgical procedure an acceptable treatment and reported a good quality of life.


Head and neck neoplasm and its treatment may negatively affect feeding, communication, and appearance, leading to psychosocial adjustments and impairments in patients’ daily lives. These impairments are more prominent among patients with advanced tumors, which constitute most cases diagnosed in developing countries and in racial/ethnic minorities living in developed countries. In this scenario, major surgical procedures, with or without adjuvant radiotherapy, are credited as the most likely to cause harmful functional and quality-of-life outcomes.

In 1987, Burns et al examined long-term outcomes among a retrospective series of patients with stage IV head and neck cancer. One aim of the study was to determine how treatment was perceived in retrospect and to what extent patients were able to return to normal lives. In this series, 56% of patients stated they would accept the same treatment if they had it to do over again, and 41% believed the benefits of treatment outweighed the complications and adverse effects. However, in this same study, 42% of patients believed there was virtually no joy in life after treatment. In 1992, in a series of surgically treated patients with advanced head and neck cancer, Gamba et al showed that 18% of patients reported the disadvantages of treatment outweighed its benefits, and, in about one-third of patients, the effects of treatment on their daily lives were described as “too harsh.”

In the past 20 years, several efforts have been made, mainly among patients with laryngeal and hypopharyngeal tumors, to develop nonsurgical organ-preservation strategies that avoid the morbidity associated with major surgical procedures without compromising overall survival.
ever, several of these organ-preserving approaches could be considered as aggressive as major surgical procedures, and whether they confer significant functional and quality-of-life advantages is still debatable.9-11

The purpose of this study was to evaluate the acceptance of treatment and the quality of life of long-term survivors of advanced head and neck cancer who had undergone major surgical procedures at a single institution.

METHODS

We performed a cross-sectional study of a consecutive series of patients treated for advanced head and neck cancer, defined as T3 or T4 squamous cell carcinoma of the oral cavity, oropharynx, larynx, or hypopharynx. Eligible patients had been initially treated with a surgical procedure, with or without adjuvant radiotherapy, and had a minimum disease-free survival period of 1 year. All medical records were reviewed, and tumors were staged according to the TNM categories of the American Joint Committee on Cancer 2002 criteria. All patients signed an informed consent form, and the study was approved by the institutional ethics committee.

The patients were interviewed by a trained nurse and completed a Brazilian Portuguese version 2 of the University of Washington Quality of Life Questionnaire (UW-QOL)12 and a questionnaire about their acceptance of long-term outcomes. This questionnaire included an item asking whether, based on the present outcomes, the patient would undergo the same treatment again and another question asking whether the patient would like to exchange the present outcome for another treatment option with a possibly improved quality of life but with a lower chance of a cure. The first question had 6 possible answers: (1) I would undergo the same treatment; (2) I would rather have undergone another treatment modality; (3) I would rather not have undergone surgical treatment; (4) I would rather not have undergone radiation therapy; (5) I would rather not have undergone any treatment; and (6) I do not know.

These 2 questions about treatment acceptance were developed specifically for this study and were designed to evaluate attitudes about long-term outcomes after treatment. The questionnaire was not psychometrically validated, and its responsiveness and sensitivity properties have not previously been tested.

The questionnaires were administered to patients before or after routine consultations at the Department of Head and Neck Surgery and Otorhinolaryngology. If patients were illiterate, a trained research nurse completed the survey instruments by reading the questions to the patients and recording their verbal responses. This nurse was not directly involved with the treatment team. All patients were informed about the confidentiality of the responses, which were not provided to the surgeons so that the study results would not interfere with patients' care.

The statistical analyses were performed using SPSS statistical software for Windows, version 10.0 (SPSS Inc, Chicago, Illinois). A descriptive analysis of the results was conducted. The UW-QOL scores were compared for each domain using the nonparametric Mann-Whitney and Kruskal-Wallis tests. We scored the individual domains according to the UW-QOL guidelines.7 Composite UW-QOL scores were calculated as the mean of the domain scores. A 7-point difference in the UW-QOL composite score is considered the minimum clinically important difference.1

RESULTS

From January 1999 to December 2002, 273 patients were included in the study. There were 203 men (74.4%) and 70 women (25.6%) aged 18 to 85 years (median age, 56 years). The primary tumor site was the oral cavity in 101 patients (37.0%), larynx in 91 (33.3%), oropharynx in 64 (23.4%), and hypopharynx in 17 (6.2%). There were 167 T3 tumors (61.2%) and 106 T4 tumors (38.8%). All patients underwent surgical resection with curative intent, and 153 patients (56.0%) received adjuvant radiotherapy. All patients had survived for at least 1 year (range, 1-26 years; median duration of survival, 5.2 years).

In response to the questionnaire about long-term treatment acceptance, 249 patients (91.2%) reported that they would undergo the same treatment if they had to do it again (Table 1), 261 (95.6%) reported that they would not like to exchange the present outcome for another treatment option with a lower chance of cure but with an improved quality of life, and just 12 (4.4%) would rather have undergone another treatment with a possibly better quality-of-life outcome.

Global quality of life was considered good to excellent by 162 patients (59.3%) (Table 2) (mean UW-QOL composite score, 79.3), and 202 patients (74.0%) reported that their health status was the same or better than before treatment.

Table 3 shows mean scores for each domain of the UW-QOL according to patient and disease characteristics. The mean composite score of the UW-QOL was worse among patients with T4 tumors vs T3 tumors (80.6 vs 77.2; P = .007). However, the difference between the mean scores was less than 7 points, which is not clinically important.

Women were more likely than men to report a worse score for pain (87.1 vs 93.1; P = .003). Older patients (>65 years) reported worse scores for activity (86.2 vs 75.0; P = .001) and speech (66.4 vs 57.5; P = .03) than did younger patients. Patients with T4 tumors reported worse...
In contrast to these previous studies, patients would prefer to be treated by radiation therapy instead of laryngectomy, even having received the information that the surgical treatment would result in a better chance of a cure compared with radiation (60% vs 30%-40%, respectively). In our series, the vast majority of patients considered a radical surgical procedure an acceptable treatment option, and less than 5% of patients reported that they would prefer another treatment with a possibly better quality of life. The group with poor acceptance included an increased proportion of women, patients with laryngeal tumors, and those who had undergone adjuvant radiotherapy. However, just 1 patient in this subgroup had a UW-QOL composite score of less than 50, which is considered a very poor quality of life. This finding shows that the long-term acceptance of treatment outcomes could not be directly related to the resultant quality of life.

Although there are some instruments in the literature to assess patients’ satisfaction with health care, we used 2 simple, direct questions to evaluate patient acceptance in this study. Although not previously psychometrically validated, such questions could be considered feasible for assessing patients’ acceptance of treatment outcomes and long-term results after a period of coping and adaptation.

A study from Deleyiannis et al corroborates our findings of good and acceptable quality of life after major surgical procedures. In this study of patients who underwent laryngectomy, 70% reported having a good to excellent quality of life, and 90% reported that their general health was the same or better compared with 1 year before the cancer diagnosis.

In our previous report about quality of life among long-term survivors of head and neck cancer, combined treatment was associated with worse quality-of-life scores than those with T3 tumors for appearance (82.4 vs 75.9; P = .002), chewing (77.5 vs 65.0; P < .001), and swallowing (77.4 vs 65.4; P < .001). Patients with the oral cavity as the primary tumor site had a worse mean score for appearance, patients with oral cavity and pharynx tumors had worse scores for chewing and swallowing, and patients with larynx and hypopharynx tumors had worse scores for speech (P < .001 for each). Most differences in individual domain scores were not only statistically significant but were also clinically important (ie, different by 7 points or more).

Among the 14 patients who would rather have undergone another treatment modality or would rather not have undergone a specific treatment (Table 1), the proportion of women increased to 42.8%, and the median age was similar (58 years) to that of the entire studied group. The most prevalent tumor site was the larynx (42.8%), followed by the oropharynx (28.5%) and oral cavity (28.5%). In this subgroup, 11 patients (78.6%) had undergone adjuvant radiotherapy. The median UW-QOL composite score was 70.3, with 3 patients scoring less than 60 and just 1 scoring less than 50, which is considered a poor quality of life. In the entire studied group, 18 patients presented a composite score of less than 60, and 4 patients scored less than 50.

### Table 3. Mean Scores for University of Washington Quality of Life Questionnaire Domains

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Multimodal treatment of head and neck cancer has been increasingly prevalent, mainly among patients with advanced disease. In such patients, the combination of radical surgical treatment and adjuvant radiotherapy has been considered the standard approach for several years, but recently has been receiving much criticism because of its potential to cause functional and quality-of-life morbidity. However, in some studies and in the present study, long-term survivors of advanced head and neck cancer treated by major surgical procedures combined with adjuvant radiotherapy showed a good overall quality of life, with a few patients concerned about better functional outcomes vs duration of survival. However, because of the nature of this study, which was a cross-sectional analysis of long-term survivors, these results should be confirmed by prospective trials.

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Author Contributions: Dr Vartanian had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Study concept and design: Vartanian and Kowalski. Acquisition of data: Vartanian. Analysis and interpretation of data: Vartanian. Drafting of the manuscript: Vartanian. Critical revision of the manuscript for important intellectual content: Vartanian and Kowalski. Statistical analysis: Vartanian. Obtained funding: Kowalski. Administrative, technical, and material support: Vartanian and Kowalski. Study supervision: Vartanian and Kowalski.

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REFERENCES