

Quality of life assessment in patients treated for metastatic cutaneous squamous cell carcinoma of the head and neck

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Abstract

Background: Treatment for metastatic cutaneous head and neck squamous cell carcinoma is usually multimodal and associated with morbidity. This study aimed to evaluate the impact of treatment on patients' quality of life.

Method: Cross-sectional survey of 42 patients (35 men, 7 women) at least 6 months after metastatic cutaneous head and neck squamous cell carcinoma treatment, using two standardised quality of life questionnaires: the Functional Assessment of Cancer Therapy – Head and Neck questionnaire and the Facial Disability Index, with statistical analysis to identify potential predictors of outcome.

Results: Female gender correlated with significantly lower Facial Disability Index physical function scores ($p = 0.017$). Alcohol consumption correlated with significantly better scores for Functional Assessment social well-being ($p = 0.016$), general total score ($p = 0.041$) and overall total score ($p = 0.033$), and for Facial Disability Index physical function ($p = 0.034$). Marital status, education, employment, chemotherapy, time from last treatment, parotidectomy and facial nerve sacrifice did not affect quality of life. The commonest patient complaints were dry mouth (76 per cent), altered voice quality and strength (55 per cent), and physical appearance (45 per cent).

Conclusion: Female gender predicts worse quality of life, while alcohol consumption (versus none) predicted for better quality of life.

Key words: Head And Neck; Cutaneous Squamous Cell Carcinoma; Metastases; Quality of Life; Outcomes Assessment, Patient; Therapy; Facial Disability Index

Introduction

The most common malignancy worldwide is non-melanoma skin cancer occurring as a result of chronic sun exposure and the impact of solar ultraviolet radiation.¹ The most common site for non-melanoma skin cancers is the sun-exposed head and neck (70–80 per cent), especially in fair-skin populations (e.g. in Australia and the United States).² The annual incidence of cutaneous squamous cell carcinoma (SCC) in males in Northern Australia is over 1300 per 100 000 population.³

Cutaneous SCC commonly arises from the anterior scalp, ear, temple and forehead, and most patients are cured by local treatment. Nevertheless, a proportion of patients identified with high-risk cutaneous SCC are at increased risk (>10 per cent) of developing metastases to regional lymph nodes involving the

parotid and/or cervical nodes.⁴ The current recommendation for patients with operable metastatic nodal disease is surgery plus adjuvant radiotherapy.^{2,5,6} Treating patients with metastatic cutaneous head and neck SCC involves morbidity, and requires hospitalisation and surgery (parotidectomy and/or neck dissection) followed (in most) by six weeks of daily out-patient adjuvant radiotherapy.

A complex relationship exists between treatment-related toxicity and treatment efficacy. Successful treatment is no longer measured solely by the oncological outcome but also by functional outcomes which influence patients' quality of life.⁷ The treatment and symptoms associated with metastatic cutaneous head and neck SCC often have an impact on quality of life and affect multiple aspects of patients' daily functioning. Treatment may result in problems relating to

disfigurement, functionality and communication. These problems have an impact on the overall well-being of the patient.⁸ Thus, quality of life and functional status have been recognised as important outcome measures in the assessment of patients receiving head and neck cancer treatment.⁹

There has been recent acknowledgement of the importance of evaluating patients' quality of life. In response to this awareness, a number of head and neck specific quality of life instruments have been developed, such as the Functional Assessment of Cancer Therapy – Head and Neck questionnaire^{9,10} and the Facial Disability Index.¹¹ At present, there is no validated, reliable quality of life instrument that is tailored specifically for metastatic skin cancer of the head and neck. In 2006, Matthews *et al.*¹² developed a disease-specific quality of life instrument specifically for the assessment of patients with primary non-melanoma skin cancers of the head and neck – the facial skin care index.¹²

Currently, there are no published studies reporting the quality of life of patients treated for metastatic cutaneous head and neck SCC. The aims of the current study were to determine the quality of life of patients after treatment for metastatic cutaneous head and neck SCC, to evaluate the influence of treatment type on quality of life, and to identify potential predictors of functional outcome post-treatment.

Methods

Study design and procedure

A cross-sectional survey was distributed between 1 February 2011 and 1 September 2011. We identified a total of 47 consecutive patients with metastatic cutaneous head and neck SCC treated at the Head and Neck Cancer Service of Westmead Hospital, Sydney.

Five patients were excluded from the study for various reasons (two patients were developmentally delayed, one patient was not fluent in English, one patient had recurrent head and neck SCC, and one patient had concurrent colorectal cancer), leaving 42 patients for the final analysis.

We included in the study patients who were disease-free, who were receiving active follow up following treatment with curative intent, and who had received a minimum six months' follow up since completion of treatment. We chose not to collect data in the early (acute) post-treatment period in order to allow acute reactions to resolve. We excluded patients who were under the age of 18 years, cognitively impaired or not fluent in English.

The study had approval by the institutional review board.

Eligible patients were invited to participate in the study while attending their regular follow-up appointment. A clinician explained the aim of the study, and informed consent was obtained. Patients were

instructed how to fill out the questionnaire, and were asked to complete it at the time of their appointment.

Measures

Data on patient demographics, clinical details, treatment and tumour details were extracted from a prospectively maintained computer database. Each patient's nodal stage was classified as per the American Joint Committee on Cancer staging system (seventh edition; 2010).¹³ Quality of life was measured using two standardised, validated quality of life instruments: the Functional Assessment of Cancer Therapy – Head and Neck questionnaire and the Facial Disability Index. In addition to these two instruments, a general comment box was included at the end of the study questionnaire.

The Functional Assessment of Cancer Therapy – Head and Neck questionnaire contains 38 items grouped into two subscales: general (27 items) and head and neck (11 items). The general subscale consists of 27 general quality of life questions divided into 4 primary domains: physical well-being, social and family well-being, emotional well-being, and functional well-being. Each item consists of a declarative statement rated from a 0 to 4. Higher scores indicate a better quality of life; some items require reverse scoring. The Functional Assessment of Cancer Therapy – Head and Neck questionnaire was created and validated by Cella *et al.*¹⁰ for the functional and psychometric assessment of quality of life in cancer patients. It has subsequently been validated and utilised to investigate other chronic conditions such as multiple sclerosis, human immunodeficiency virus infection and acquired immune deficiency syndrome. The 11-item head and neck subscale is more disease-specific and covers quality of life issues relating to head and neck symptoms specific to head and neck cancer patients.^{9,14}

The Facial Disability Index is a 10-item questionnaire which evaluates facial neuromuscular impairment. It was designed to quantify disabilities associated with facial neuromuscular dysfunction.¹⁵ The Index covers two primary domains: physical function of the facial nerve, and social function and well-being. The five physical function questions target problems associated with facial nerve function (e.g. 'How much difficulty do you have drinking from a cup?'). The social function and well-being section included questions such as 'How much of the time have you felt calm and peaceful?'. The Facial Disability Index was developed and validated by VanSwearingen and Brach¹¹ as a reliable, patient-focused measure of facial motor disorders. It has theta reliability of 0.88 in physical function and 0.83 in social function and well-being.

Finally, a general comments box was provided at the end of the study questionnaire to encourage patients to write down any personal comments that they wanted to make regarding their experience of head and neck SCC and its treatment.

Statistical analysis

Summary statistics are presented as means and percentages of the total number of patients. The association between quality of life domains, patient demographics and disease-related characteristics was analysed univariately using a linear regression model. Variables found to be significant in the univariate analysis were then investigated using multivariate linear regression. Only associations with a *p* value of less than 0.05 were considered statistically significant.

Results

Patient characteristics

Forty-two patients were eligible for the study: 35 men and 7 women, with a mean age of 71 years (range, 50–88 years). Twenty-seven patients (64 per cent) were married or living with a partner. Ten patients (24 per cent) were employed. In terms of education, 17 patients (40 per cent) had more than 12 years of schooling. Only four patients (10 per cent) smoked, while 24 patients (57 per cent) stated that they had consumed alcohol (any amount) in the 7 days prior to survey completion. Patient characteristics are listed in Table I.

Tumour characteristics

All 42 patients were diagnosed with metastatic cutaneous head and neck SCC. Fifteen of the 42 (36 per cent) had parotid metastasis only. Five of the 42 (12 per cent) had metastatic lymph nodes located at level I (submental and submandibular region) and 7 (17 per cent) had metastatic nodes at level II (jugulodigastric region). Only 4 of the 42 patients (9 per cent) had metastatic nodes involving other nodal levels. Eleven patients (26 per cent) had multiple involved

levels. Extracapsular spread was present in 26 of the 42 patients (63 per cent), and 25 patients (62 per cent) had involved surgical margins. In-field relapse occurred in two patients (5 per cent). Intra-operative facial nerve branch sacrifice was required in 5 of the 42 patients (12 per cent). Two patients (5 per cent) were immunosuppressed secondary to transplantation or haematological disease (Table II). The median follow up was two years.

Treatment

Most patients (98 per cent) underwent surgery, with only one patient receiving radiotherapy alone. Thirty-eight patients (90 per cent) received adjuvant radiotherapy. Of the 41 patients who underwent surgery, 3 patients had surgery alone, 27 had surgery plus adjuvant radiotherapy and 11 had surgery plus adjuvant radiochemotherapy (Table III).

Surgery

One of the 41 operated patients (2 per cent) underwent nodal excision only. Twelve patients (29 per cent) underwent selective neck dissection without parotidectomy, while five patients (12 per cent) had comprehensive neck dissection without parotidectomy. Of the 23 patients who underwent parotidectomy, 21 had a

Characteristic	Value
Total (n (%))	42 (100)
Sex (n (%))	
– Male	35 (83)
– Female	7 (17)
Age (mean ± SD; years)	71 ± 10
Marital status (n (%))	
– Married or living together	27 (64)
– Other	15 (36)
Employment (n (%))	
– Employed	10 (24)
– Retired or other	32 (76)
Education (n (%))	
– >12 years of school	17 (40)
– <12 years of school	25 (60)
Smoking (any) (n (%))	
– Yes	4 (10)
– No	38 (90)
Alcohol (any) (n (%))	
– Yes	24 (57)
– No	18 (43)

SD = standard deviation

Characteristic	Pts (n (%))
Total pts	42 (100)
Location of primary lesion	
– Unknown	17 (40)
– Fronto-temporal	7 (17)
– Cheek	5 (12)
– Ear	3 (7)
– Anterior scalp	2 (5)
– Posterior scalp	2 (5)
– Neck	2 (5)
– Nose	2 (5)
– Lip	2 (5)
AJCC pathological nodal stage ¹³	
– N _x	1 (2)
– N ₁	18 (43)
– N _{2a}	7 (17)
– N _{2b}	13 (31)
– N _{2c}	3 (7)
– N ₃	0 (0)
Location of lymph nodes	
– Parotid	15 (36)
– Level I	5 (12)
– Level II	7 (17)
– Level III	1 (2)
– Level IV	1 (2)
– Level V	2 (5)
– Multiple regions	11 (26)
Extracapsular spread	26 (63)
Involved margins	25 (61)
Facial nerve branch sacrifice	5 (12)
In-field relapse	2 (5)
Immunosuppression	2 (5)

Pts = patients; AJCC = American Joint Committee on Cancer; N = nodal stage

TABLE III
TREATMENT CHARACTERISTICS

Characteristic	Value
Total pts (<i>n</i> (%))	42 (100)
Treatment modality (pts; <i>n</i> (%))	
– Radiotherapy alone	1 (2)
– Surgery alone	3 (7)
– Surgery + radiotherapy	27 (64)
– Surgery + radiotherapy + chemotherapy	11 (26)
Adjuvant therapy (pts; <i>n</i> (%))	
– Radiotherapy	38 (90)
– Chemotherapy	11 (26)
Surgery type* (pts; <i>n</i> (%))	
– Nodal excision only	1 (2)
– Selective ND	12 (29)
– Comprehensive ND	5 (12)
– Parotidectomy + selective ND	21 (51)
– Parotidectomy + comprehensive ND	2 (5)
Time from last treatment (mean ± SD; mth)	34 ± 25
Time from last treatment (pts; <i>n</i> (%))	
– 6–18 mth	14 (33)
– >18 mth	28 (67)

**n* = 41. Pts = patients; ND = neck dissection; SD = standard deviation; mth = months

selective neck dissection and 2 had a comprehensive neck dissection (Table III).

Radiotherapy

Thirty-nine of the 42 patients (93 per cent) underwent radiotherapy. Thirty-five patients (90 per cent) were treated with multifield megavoltage photons, while four (10 per cent) were treated with en bloc moderate energy electrons. The median radiotherapy dosage delivered was 60 Gy in 2-Gy daily fractions to the parotid and/or dissected neck, and 50 Gy in 2-Gy daily fractions to the undissected lower neck. All patients received ipsilateral radiotherapy utilising computed tomography planned, three-dimensional, conformal treatment.

Chemotherapy

Eleven of the 42 patients (26 per cent) received adjuvant, weekly, low-dose, carboplatinum chemotherapy. The median number of chemotherapy cycles delivered was six. All of these 11 patients were enrolled in the Trans Tasman Radiation Oncology Group 05.01 trial, a large, multicentre, randomised, controlled trial investigating the role of weekly adjuvant carboplatinum chemotherapy as a radiosensitiser.

Quality of life

The Functional Assessment of Cancer Therapy – Head and Neck questionnaire mean total general subscale score was 91 ± 13 (range, 44–108), the mean total head and neck subscale score was 32 ± 5 (range, 20–40), and the mean overall total score was 124 ± 17 (range, 64–148). Table IV gives detailed information on the various Functional Assessment of Cancer Therapy – Head and Neck questionnaire scores.

TABLE IV
QUALITY OF LIFE SCORES

Outcome measure	Mean (%*)	SD	Range
FACT-H&N			
– Physical WB	24 (86)	5	1–28
– Social & family WB	24 (85)	4	9–28
– Emotional WB	20 (84)	5	4–24
– Functional WB	23 (83)	4	13–28
– H&N subscale	32 (81)	5	20–40
– General subscale	91 (84)	13	44–108
– Total	124 (84)	17	64–148
FDI [†]			
– Physical function	89 (89)	15	45–100
– Social function & WB	76 (76)	12	52–100

*Percentage of highest achievable score. [†]Raw scores represent percentages. SD = standard deviation; FACT-H&N = Functional Assessment of Cancer Therapy – Head and Neck questionnaire; WB = well-being; FDI = Facial Disability Index

The Facial Disability Index mean physical function score was 89 ± 15 per cent (range, 45–100 per cent), and the mean social function and well-being score was 76 ± 12 per cent (range, 52–100 per cent) (Table IV).

Female gender was associated with a statistically significant reduction in the Facial Disability Index mean physical function score (indicating a worse quality of life), with a median score of 90 ± 22 per cent, compared with 100 ± 12 per cent in males ($p = 0.017$). Patients who had consumed alcohol in the 7 days prior to survey completion had a statistically significantly better social and family well-being score, general total score, and overall total score on the Functional Assessment of Cancer Therapy – Head and Neck questionnaire, and a better mean physical function score on the Facial Disability Index, compared with patients who had not consumed alcohol (respective scores: 26 ± 3 vs 23 ± 5, $p = 0.016$; 93 ± 10 vs 90 ± 15, $p = 0.041$; 128 ± 13 vs 120 ± 20, $p = 0.033$; and 100 ± 11 per cent vs 88 ± 17 per cent, $p = 0.034$). Marital status, education, employment status, the addition of chemotherapy, time from last treatment, parotidectomy and facial nerve branch sacrifice were not statistically significantly associated with quality of life, based on results from either the Functional Assessment of Cancer Therapy – Head and Neck questionnaire or the Facial Disability Index. Figure 1 shows the mean difference (95 per cent confidence interval (CI)) in quality of life scores for different patient and treatment characteristics.

In terms of head and neck symptoms, the most common five patient complaints were ‘dry mouth’ (32 patients, 76 per cent), ‘change in voice quality and strength’ (23 patients, 55 per cent), ‘unhappy with how my face and neck look’ (19 patients, 45 per cent), ‘unable to eat food that I like’ (17 patients, 40 per cent) and ‘pain in mouth, throat or neck’ (17 patients, 40 per cent) (Table V).

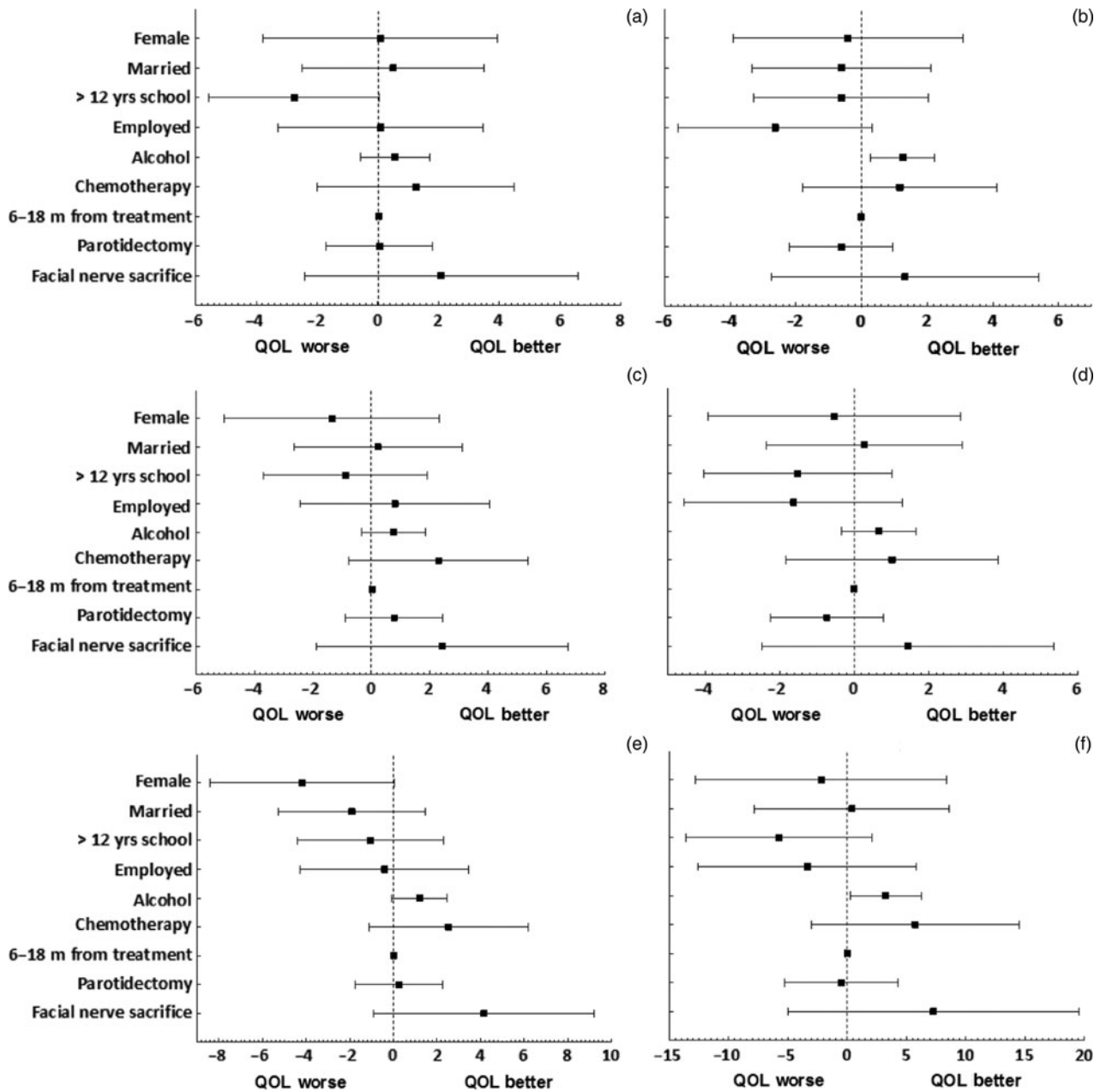


FIG. 1

Plots of means and 95 per cent confidence intervals for various patient subgroups, for the following quality of life (QOL) scoring domains: for the Functional Assessment of Cancer Therapy – Head and Neck questionnaire, (a) physical well-being, (b) social and family well-being, (c) emotional well-being, (d) functional well-being, (e) total head and neck subscale score, (f) total general subscale score, and (g) overall total score; and for the Facial Disability Index, (h) physical function and (i) social function and well-being. Yrs = years; m = months

Discussion

There are currently no published data informing clinicians on how the diagnosis and treatment of metastatic cutaneous head and neck SCC affects patients’ quality of life.

We found that female patients had a statistically significant decrease in their Facial Disability Index physical function score, compared with male patients ($p = 0.017$). This score reflects multiple factors, including eye tearing or dryness, and difficulty in keeping food in the mouth, drinking from a cup, brushing teeth, rinsing the mouth, and speech. Other studies of the

quality of life of head and neck cancer patients have also reported differences between genders. Maciejewski and colleagues’ study¹⁶ of 54 patients who had undergone surgical resection of oral SCC suggested that female participants tended to have a more negative assessment of emotional function, while men had a more negative assessment of their social function. Another study, by Bjordal *et al.*,¹⁷ reported that quality of life assessment was initially lower for women but equalised after a year.

Alcohol consumption correlated with a better social well-being score, general total score and overall total

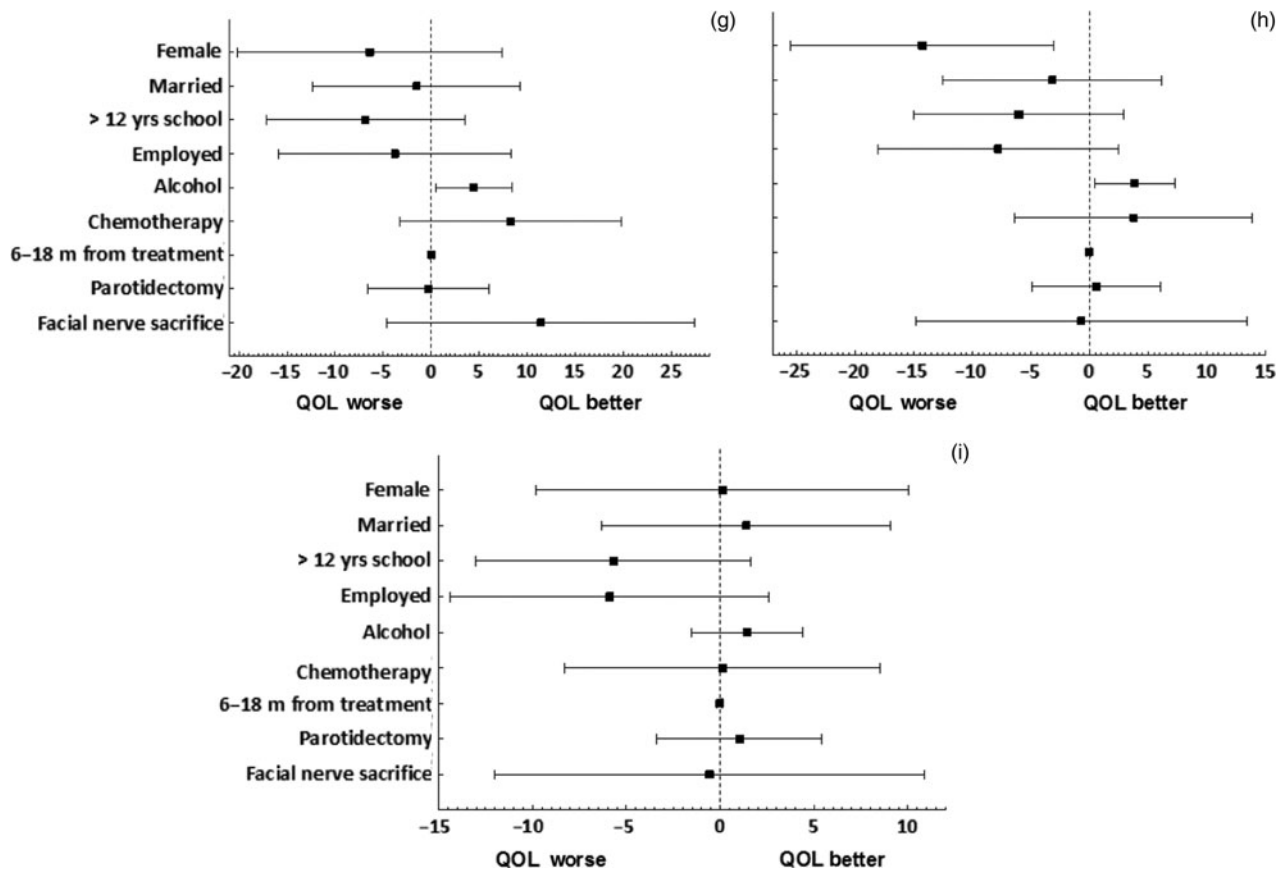


FIG. 1
(Continued)

score on the Functional Assessment of Cancer Therapy – Head and Neck questionnaire, and a better physical function score on the Facial Disability Index.

Similarly, Allison's¹⁸ cross-sectional study of the relationship between alcohol consumption and health-related quality of life in 191 head and neck cancer patients reported that subjects consuming at least one alcoholic drink in the preceding month had better physical and role functioning and global health-related quality of life, as well as less fatigue, pain, problems swallowing, dry mouth and malaise.

In contrast, Potash and colleagues' 2010 study¹⁹ reported that head and neck cancer patients who continued to drink (as 'problem drinkers') had worse depressive symptom scores and the lowest overall quality of life. However, social drinkers had a better overall quality of life; this may possibly have been due to better health-related quality of life and superior oral functioning, rather than to drinking alcohol per se. This result may also be an indication of better social support or social opportunities and increased acceptance by others.

In the current study, it is difficult to know why alcohol consumption improved our patients' quality of life. The question remains whether drinking alcohol is a cause or effect of improved quality of life. Our study was limited by its small cohort size. Even though our data did not include frequency or

quantity of alcohol consumption, our findings suggest that social or moderate alcohol consumption improves patients' quality of life.

In our study, the addition of chemotherapy was not found to have a significant effect on quality of life. There is currently no published literature on the effect of the addition of chemotherapy on the quality of life of patients with cutaneous head and neck SCC.

However, analogous studies on the addition of chemotherapy in patients with mucosal head and neck cancers have reported similar findings. El-Deiry and colleagues' 2005 study²⁰ assessed the quality of life of patients with advanced stage (III or IV) primary

TABLE V
HEAD AND NECK SYMPTOMS

Symptom	Pts* (n (%))
Dry mouth	32 (76)
Change in voice quality & strength	23 (55)
Unhappy with how face & neck look	19 (45)
Unable to eat food I like	17 (40)
Pain in mouth, throat or neck	17 (40)
Swallowing difficulty	16 (38)
Inability to eat as much food as I want	11 (26)
Difficulty eating solid foods	10 (24)
Trouble communicating with others	8 (19)
Trouble breathing	6 (14)

*n = 42. Pts = patients

SCC of the oropharynx, hypopharynx or larynx who had received surgery plus post-operative radiotherapy or concurrent chemotherapy plus radiotherapy, and who had undergone a minimum of 12 months' post-treatment follow up. The overall quality of life scores for the two treatment groups were remarkably similar. A possible explanation could be that the effects of chemotherapy were more transient and thus affected only the early phases of follow up (i.e. up to six months post-treatment), whereas surgery plus radiotherapy had longer lasting effects. It is therefore possible that patients treated with adjuvant chemotherapy may have experienced a worse quality of life, at least in the acute phase, which may not have been subsequently detected in this cross-sectional study.

Adjuvant radiotherapy has become a standard treatment for metastatic cutaneous head and neck SCC. In our study, all but three patients (i.e. a total of 93 per cent) received adjuvant radiotherapy. The reasons for patients not undergoing adjuvant radiotherapy included patient refusal, medical comorbidity and advanced age. Due to the marked difference in numbers of patients receiving radiotherapy versus no radiotherapy, it was not statistically feasible to compare the quality of life of these two groups.

The Functional Assessment of Cancer Therapy – Head and Neck questionnaire has been utilised to study patients with cancers in other head and neck subsites. In a recent study, Palme *et al.*⁷ used this tool to perform a cross-sectional quality of life review of patients with skull base tumours who were a minimum of six months post-treatment. The mean general total score and head and neck subscale score were 90.0 and 30.0, respectively.

Campbell *et al.*²¹ used the Functional Assessment of Cancer Therapy – Head and Neck questionnaire in a large survey of 111 patients with head and neck mucosal SCC (of the oral cavity, pharynx or larynx) who had received treatment and had been disease-free for at least 3 years. The mean general total score was 82.9 and the mean head and neck subscale score was 31.1.

Another study by this same group²² used the same questionnaire to investigate the quality of life of head and neck mucosal SCC patients (oral cavity, pharynx or larynx) with a minimum post-treatment time of five years and a minimum disease-free period of three years. The mean general total score was 96.1 and the mean head and neck subscale score was 26.1.

In our study, patients reported a similar or better outcome, with a mean general total score of 91.0 and a mean head and neck subscale score of 32.0 (Figure 2).

In our study, xerostomia (the subjective feeling of dryness of the mouth and throat) was the most frequently reported side effect of treatment. Xerostomia is one of the commonest long-term effects of radiotherapy and/or chemoradiation. Thirty-two of our patients (76 per cent) expressed some problem with mouth

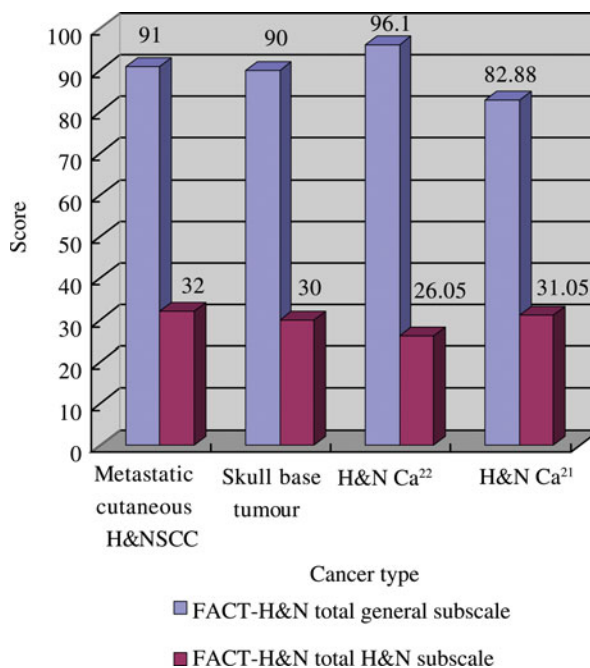


FIG. 2

Comparison of Functional Assessment of Cancer Therapy – Head and Neck questionnaire quality of life scores from the present study of metastatic cutaneous head and neck squamous cell carcinoma, and from studies of skull base tumour⁷ and head and neck mucosal cancer.^{21,22}

dryness. As expected, patients receiving radiotherapy to the parotid (using the wedge pair technique) reported this symptom most often. However, some patients not receiving parotid radiotherapy still reported xerostomia, perhaps indicating the subjective nature of this symptom.

Ackerstaff *et al.*⁸ reported a minor improvement in xerostomia in patients who were more than 12 months post-treatment; however, it was difficult to ascertain whether this was due to actual symptom reduction or to patients becoming more accustomed to it over time.

In Nordgren and colleagues' study²³ of quality of life in pharyngeal carcinoma patients, xerostomia was reported to be a long-term problem which became worse between diagnosis and the five-year follow-up point. These authors also undertook a 2007 evaluation²⁴ of 122 patients with oral carcinoma treated with either radiotherapy only, surgery only or combination therapy; they found that xerostomia remained a problem between 1 and 5 years after diagnosis in patients treated by radiotherapy.

In the current study, 23 patients (55 per cent) reported changes in their voice quality and strength. Examples of patients' speech complaints included 'I have trouble speaking' and 'I am embarrassed at times with my speech'.

Swallowing dysfunction (dysphagia) is a frequent consequence of mucosal head and neck cancer and its treatment, and can cause nutritional deficiency and decreased quality of life. Dysphagia prolongs or

prohibits the intake of a normal meal, which may also affect patients' quality of life. As seen in Table V, 17 patients (40 per cent) reported that they were 'unable to eat food that I like', while 16 patients (38 per cent) complained of difficulty swallowing. However, only 10 patients (24 per cent) reported difficulty eating solid food. It is unclear why a minority of our patients reported difficulty with eating and swallowing, as surgery did not involve the upper aerodigestive tract and radiotherapy did not involve a significant volume of pharyngeal mucosa (excepting the oropharynx in parotid radiotherapy). It is possible that xerostomia may have contributed to these symptoms in some patients.

In terms of physical appearance, almost half the cohort (19 patients; 45 per cent) reported being 'unhappy with how my face and neck look'. It is interesting that so many patients reported this struggle with self-image, given that the surgery most patients received comprised selective neck dissection or comprehensive neck dissection with or without parotidectomy, procedures not considered to be markedly disfiguring. In our study, most parotidectomies were able to spare the facial nerve, with only five patients requiring facial nerve branch sacrifice. However, none of the patients who lost a facial nerve branch expressed concern about their appearance. An example of a patient complaint about physical appearance was 'people are cruel and rude with comments about my facial appearance'. Cosmetic concern is an issue that is commonly ignored and rarely discussed in the literature. In Shah and colleagues' study²⁵ of the quality of life of 51 patients undergoing neck dissection, 27 per cent expressed cosmetic concerns, and 13 per cent reported that such concerns interfered with their daily activities.

- **The quality of life of patients treated for metastatic cutaneous head and neck squamous cell carcinoma (SCC) is unknown**
- **This was a cross-sectional study of quality of life in such patients, at least six months post-treatment**
- **Female gender was associated with worse quality of life (re physical function)**
- **Alcohol consumption was associated with better quality of life**

We acknowledge that our study had several limitations. The study was a 'snap shot' survey in which quality of life was evaluated only once in a cross-sectional fashion, rather than in a more lengthy longitudinal study. Many quality of life studies are designed longitudinally to compare quality of life scores at different time points, and include pre-treatment data, which we did not collect. Thus, a drawback of our study was its inability to compare pre- and post-treatment data. The

second limitation of the study was the relatively small number of patients. We selected a group of surviving patients who were able to attend follow-up clinics, which may have resulted in an unintended selection bias. In addition, there is a lack of normative data for the quality of life assessment tools utilised in this study, making it difficult to compare quality of life scores for patients versus the general population. Our study involved a single time-point cohort, and all the presented results are exploratory in nature.

Despite the aforementioned limitations, we believe our results provide interesting and previously unpublished data on the quality of life of patients treated for metastatic cutaneous head and neck SCC. We believe that our findings will facilitate future research on this topic.

Conclusion

In this study of the quality of life of patients treated for metastatic cutaneous head and neck SCC, female gender was found to be associated with worse quality of life scores for physical function. Alcohol consumption (versus none) was a positive predictor of quality of life; further research is warranted to clarify this correlation. The most common symptom was xerostomia.

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