

Quality of life in survivors of squamous cell carcinoma of oral and oropharyngeal patients in Karachi, Pakistan

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Objectives: To evaluate quality of life (QOL) in patients with squamous cell carcinoma of oral and oropharyngeal region.

Methodology: This is prospective longitudinal study was conducted at ENT department Dow University Hospital and Radiotherapy Department KIRAN from November 2012 to November 2015. It included 56 patients of squamous cell carcinoma (SCC) of oral cavity and oropharynx regions who had completed cancer treatment (Wide local excision +/- Neck dissection +/- Radiotherapy). UW QOL questionnaire is taken as the tool to analyze the quality improvement in the domains of pain, appearance, activity, recreation, swallowing, chewing, speech, shoulder, taste, saliva, mood and anxiety. Comparative analysis used to assess all 12 factors associated with cancer patients. A paired t-test was used to compare preoperative and 6 months or more post-operative QOL rating.

Results: Six months or more after surgery, 13 patients were lost to follow up and 9 died. 34 patients completed the UW QOL. Cancer Survivors presented overall significantly poorer QOL. QOL improved in the domains of activity, shoulder pain, mood and anxiety.

Conclusion: This study recommend Quality of life assessment of oral and oropharyngeal cancers which may contribute to functional, psychological and somatic limitations and likely alter the treatment methodology where cure of cancer is equally good for any modality. This study also identifies that cases of early cancer of oral and oropharyngeal region would not compromise QOL of the patients significantly. (Rawal Med J 201;42:176-180)

Key Words: Quality of life, squamous cell carcinoma, oropharyngeal cancer.

INTRODUCTION

QOL is one of the basic parameters, which is unfortunately neglected in our country. International Society for Quality of Life Studies (ISQOLS) says "The general well-being of a person or society, defined in terms of health and happiness, rather than wealth". According to a report published in 26th of February 2011 in express tribune, head and neck cancers (HNC) tops the list of most common cancers in Pakistan and form incidence at 10 per 100000 which has become major health issue.¹ Aesthetic and functional sequelae due to surgical incision and cancer resection often associated with pre- or post-operative radiotherapy (RT) always modify the patient's self-perception and the ability to interact with others in daily social life. However, to cope with these changes patient should go

through rehabilitation and hence the improvement in his QOL.

QOL as per health economics is ubiquitous concept that includes physical, functional, social and emotional wellbeing of an individual and is also a patient reported outcome usually measured with carefully designed and validated instruments such as questionnaires or semi structured interview schedules. Breil et al² evaluated 16 patients with self-administrated questionnaire and found meaningful to guide management. A very good example of it is the, "University of Washington Quality of Life Questionnaire (UWQOL) V4." Questionnaire, which is filled by HNC patients before and after surgery.³ It covers a total of 12 parameters that include; pain, appearance, activity, recreation, swallowing, chewing, speech, shoulder,

taste, saliva, mood and anxiety. Since UWQOL has undergone several improvements and introduced V4 version that also added questions about emotional functions depression and anxiety. UWQOL ranges from a score of 0 (worst) to 100 (best QOL). Aim of this study was to evaluate changes in QOL from pre-operative levels during the six months post-operative period in patients suffering with oral and oropharyngeal squamous cell carcinoma patients in Pakistan.

METHODOLOGY

Study sample included patient of HNC and UWQOL score was used to evaluate the changes before and after treatment. This was a prospective longitudinal study and enrolled a total of 56 patients of HNC oral cavity and oropharynx regions with a mean age of 35 years from November 2012 to November 2015 at DUHS and KIRAN hospitals Karachi, Pakistan. Patients of both genders, age above 16 years with squamous cell carcinoma only were included in the study. Patients who refused to give consent, blind patients, cardiovascular problem, history of strokes, cognitive deficit, uncontrolled diabetes, immunosuppression disorders, inoperable cases only palliative treatment could be used, inoperable cases of tumor bulk or nodal fixed node, patients suffering from psychiatric problem, recurrence of tumor and distant metastasis were excluded from the study. Patients were briefed about study and taken consent. Patients themselves under supervision completed UWQOL V4 before and after 6 months of treatment. Mostly questions were translated in patient's local language. In addition to above, patients bio data, tumor site, stage, treatment modality and reconstruction measures were noted. Comparative analysis used to assess all 12 factors associated with cancer patients. Patients were followed up after completion of their treatment that included surgery and may or may not need radiotherapy/chemotherapy, whichever the case needed. Carcinomas were in region of tonsils, buccal mucosa, palate, tongue, floor of mouth with/without nodal metastasis. A paired t- test to compare preoperative and 6 months or more post-operative QOL rating.

RESULTS

Out of 56 patients enrolled 34(60%) eventually fulfilled UWQOL V4 and were included in cohort. 9(16%) patients died due to disease and 6 months after treatment, 13(23.2%) patients dropped out. Male were 26 while female were 8 in number. Mean age of subjects was 51 ± 12.5 year. Tumor staging was T1 -10, T2-12, T3-5 and T4 were 7 patients. Ipsilateral Neck Dissection was done in 18 patients while chemo-radiotherapy was done in 17 patients. All the domains are listed and those with a significant P value are colored red Table 1. Cumulative scores in percentages are represented in Table 2 and 3. Overall QOL score was poor. Only 4 domains showed improvement that was activity ($p=0.05$), shoulder pain ($p=0.005$), Mood ($p=0.022$), anxiety ($p=0.03$). Other domains showed no improvement, in fact showed poor outcomes.

Table 1. QOL, Mean, Std. Deviation & P. Value (n=34).

Quality measure	Mean±SD	P. Value
Pain Pre Rx	1.9118±1.05508	0.972
Pain Post Rx	1.5000±0.82572	
Appearance Pre Rx	1.5000±0.86164	0.092
Appearance Post Rx	1.7941±0.80827	
Activity Pre Rx	1.6176±1.04489	0.05
Activity Post Rx	1.8235±1.08629	
Recreation Pre Rx	1.5882±0.98835	0.391
Recreation Post Rx	1.3235±0.53488	
Swallowing Pre Rx	1.5882±0.70141	0.350
Swallowing Post Rx	1.5000±0.70711	
Chewing Pre Rx	1.3824±0.60376	0.160
Chewing Post Rx	1.4118±0.60891	
Speech Pre Rx	1.4118±0.70141	0.628
Speech Post Rx	1.4118±0.60891	
Shoulder Pre Rx	1.0294±0.17150	0.005
Shoulder Post Rx	1.1471±0.43571	
Taste Pre Rx	1.7059±0.83591	0.098
Taste Post Rx	1.6765±0.97610	
Saliva Pre Rx	1.2741±0.57889	0.467
Saliva Post Rx	1.7647±0.92307	
Mood Pre Rx	1.7941±1.12221	0.022
Mood Post Rx	1.3235±0.68404	
Anxiety Pre Rx	1.7059±	0.031
Anxiety Post Rx	1.3529±	

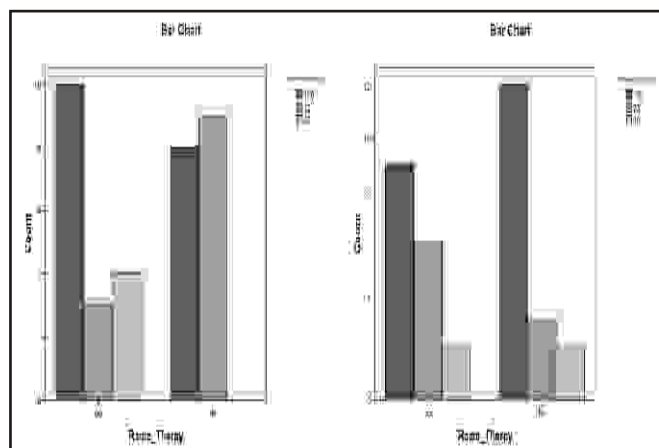
Table 2. QOL Cumulative Score in % of swallow, speech, shoulder, taste, saliva & anxiety.

QOL	Cumulative Score in %			
	0	30	70	100
Swallow Pre Treatment	0	11.8	35.3	52.9
Swallow Post Treatment	0	11.8	26.5	61.8
Speech Pre Treatment	0	11.8	17.6	70.6
Speech Post Treatment	0	5.9	29.4	64.7
Shoulder Pre Treatment	0	0	2.9	97.1
Shoulder Post Treatment	0	2.9	8.8	88.2
Taste Pre Treatment	2.9	14.7	32.4	50.0
Taste Post Treatment	5.9	17.6	14.7	61.8
Saliva Pre Treatment	0	5.9	17.6	76.5
Saliva Post Treatment	2.9	23.5	20.6	52.9
Anxiety Pre Treatment	5.9	14.7	23.5	55.9
Anxiety Post Treatment	5.9	5.9	5.9	82.4

Table 3. QOL Cumulative Score in % of pain, appearance, activity, recreation, chewing & mood.

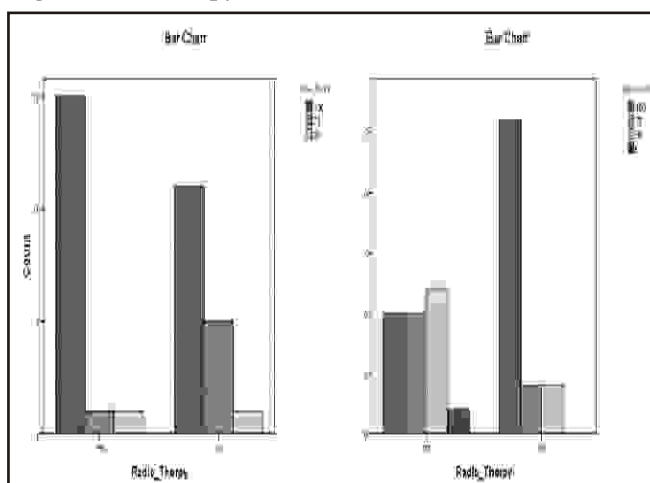
QOL	Cumulative Score in %				
	0	25	50	75	100
Pain Pre Treatment	2.6	2.6	26.3	23.7	44.7
Pain Post Treatment	0	2.6	10.5	15.8	65.8
Appearance Pre Treatment	0	5.9	5.9	20.6	67.6
Appearance Post Treatment	0	0	23.5	32.4	44.1
Activity Pre Treatment	2.9	2.9	14.7	11.8	67.6
Activity Post Treatment	5.9	2.9	5.9	38.2	47.1
Recreation Pre Treatment	2.9	5.9	0	29.4	61.8
Recreation Post Treatment	0	0	2.9	26.5	70.6
Chewing Pre Treatment	5.9	-	26.5	-	67.6
Chewing Post Treatment	5.9	-	29.4	-	64.7
Mood Pre Treatment	5.9	2.9	8.8	29.4	52.9
Mood Post Treatment	0	2.9	2.9	17.6	76.5

Fig. 1. Radiotherapy effect on Swallowing.



P value 0.02

Fig. 2. Radiotherapy effect on Saliva



P value 0.04

Our study showed improvement in Physical Domains of activity, shoulder pain enhances post treatment patients. Speech, chewing, swallowing and appearance deteriorated significantly in stage IV. Swallowing and saliva production in post radiotherapy markedly deteriorated in comparison of patients who did not receive radiotherapy (Figure 1 and Figure 2). Overall patients presented poorer QOL score.

DISCUSSION

Patients who are diagnosed with bulky loco regional metastasis and advanced T4 stage have high chance of death within 2 months of treatment. In our study, the physical domains, which significantly improved, were anxiety, activity, shoulder and mood, while speech, chewing, swallowing and appearance deteriorated significantly. There was overall reduction of domain specific HRQOL at 6 months follow-up of surgery. A Brazilian study reported lower survival and poor HRQOL.⁴

We found domain of anxiety significantly improved over six months follow-up. Biasevic et al⁵ reported reduction in overall HRQOL after surgery. Patients who were frightened at time of cancer diagnosis, with elimination of tumor and get over the disease became satisfied with time. Rogers et al⁶ found anxiety problem highest at diagnosis and decreased over the period of time. Depression and anxiety was found 25%. Socio-demographic factors reflected poor correlation in QOL. Studies have showed a

strong association between psychological outcome and quality of life (QOL) aspects.^{7,8} Baumann et al⁹ in his study of 34 patients suffering with oropharyngeal carcinoma concluded that overall QOL deteriorated in them.

Radiotherapy resulted in significant deterioration of QOL among our patients, as reported by others.¹⁰⁻¹²

While comparing 179 patients Perry et al¹³ concluded large or advanced lesions that required post-operative radiotherapy significantly impaired the quality of patients. Bressmann et al¹⁴ reviewed 14 patients and concluded that better tongue mobile would have better speech outcome. Early tumors have better speech score than late one.^{15,16} Rogers et al reported that speech changes persist throughout the life of patients.¹⁷ Borggreven et al¹⁸ in a longitudinal study showed poor speech outcomes of larger tongue lesions. In our patients of bulky tongue lesions also had poor speech score.

A prospective study¹⁹ in 40 HNC using UWQOL, QOL scores were worse at six months but resumed around preoperative levels at one year. Domains effected varied depending on tumor. Activity, appearance, shoulder, speech & saliva significantly decreased at a year. Anxiety scored significantly well at one year. Mowry et al¹⁹ reported deterioration in domains of swallowing, chewing, saliva and taste. Patients who received chemo radiation were affected more.^{20,21}

Our study supported some of previous studies but one of the main constraints in our study was time and the reduced number of sample size. We were unable to embark on the sociodemographic variables association with tumor survival or QOL among patients. Our study duration was of 6 months because many patients lost their follow up. We recommend another study of longer follow up QOL evaluation from different centers of country.

CONCLUSION

We found Quality of life deterioration in oral and oropharyngeal cancers and may contribute to functional, psychological and somatic limitations.

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