Quality of life in patients submitted to surgical treatment for minor salivary gland neoplasms

Qualidade de vida em pacientes submetidos a tratamento cirúrgico para neoplasias de glândulas salivares menores

Sílvio Kenji Hirota[a]
Sibele Sarti Penha[b]
Carlos Neutzling Lehn[c]
Norberto Nobuo Sugaya[b]
Dante Antônio Migliari[b]

[a] Research fellow; [b] Assistant Professors – Department of Stomatology, School of Dentistry, University of São Paulo.

[c] Researcher, Physician and Chief of the Head and Neck Surgery Service, Heliópolis Hospital, São Paulo.

Abstract: This study was aimed at assessing the quality of life in patients submitted to surgical treatment for minor salivary gland neoplasms (MSGN). Twelve patients (10 women and 2 men, mean age: 49.4 years) with histopathologic diagnosis of pleomorphic adenoma (PA, 3 cases), polymorphous low-grade adenocarcinoma (PLGA, 2 cases), cystic adenoid carcinoma (CAC, 4 cases), and muco-epidermoid carcinoma (MEC, 3 cases) were evaluated. All of them were treated by surgical excision; patients with CAC received radiotherapy as well. The patients' quality of life was evaluated through a self-administered questionnaire concerning their physical well-being, emotional status, normal daily activities, and family relationships. The results showed that patients with MEC – the youngest among all patients – reported a significantly greater worsening of their physical well-being and emotional status after treatment as compared with patients treated for PA ($P < 0.05$), and also of their functional activities as compared with those treated for PA and PLGA ($P < 0.05$). In conclusion, age of development of the neoplasm and type of disease produce more impact on patients' quality of life than does the therapy's degree of aggression.
Descriptors: Salivary gland neoplasms; Salivary glands, minor; Surgery; Quality of life.

Resumo: Este estudo teve por objetivo avaliar a qualidade de vida em pacientes submetidos a tratamento cirúrgico para neoplasias de glândulas salivares menores (NGSM). Doze pacientes (10 mulheres e 2 homens, idade média de 49,4 anos) com diagnóstico histopatológico de adenoma pleomórfico (AP, 3 casos), adenocarcinoma polimorfo de baixo grau de malignidade (APBG, 2 casos), carcinoma adenóide cístico (CAC, 4 casos), e carcinoma muco-epidermóide (CME, 3 casos) foram avaliados. Todos os pacientes foram tratados por excisão cirúrgica; pacientes com CAC receberam radioterapia complementar. A qualidade de vida dos pacientes foi avaliada através de um questionário de auto-avaliação referente ao bem-estar físico, estado emocional, atividades normais diárias, e relações familiares. Os resultados mostraram que os pacientes com CME – os mais jovens entre todos os pacientes – relataram uma piora significativamente maior em seu bem-estar físico e estado emocional após o tratamento quando comparados com pacientes tratados de AP ($P < 0,05$), e também em suas atividades funcionais quando comparada com indivíduos tratados de AP e APBG ($P < 0,05$). Em conclusão, a idade de desenvolvimento da neoplasia e o tipo de doença produzem maior impacto na qualidade de vida do paciente do que faz o grau de agressão do tratamento.
Descritores: Neoplasias das glândulas salivares; Glândulas salivares menores; Cirurgia; Qualidade de vida.

Corresponding author:
Sílvio Kenji Hirota
Faculdade de Odontologia da Universidade de São Paulo (USP) – Departamento de Estomatologia (Disciplina de Semiologia)
Av. Prof. Lineu Prestes, 2227, Cidade Universitária
São Paulo - SP - Brazil
CEP: 05508-900
E-mail: *silviohirota@yahoo.com.br*

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Introduction

Salivary gland neoplasms account for 1 to 4% of head and neck neoplasms.[7,10] The majority of salivary gland tumors affect the major salivary glands; 10 to 15% of them involve the minor salivary glands.[3,4,8,18] According to many reports, a significant number of minor salivary gland neoplasms (MSGN) are of malignant nature, and treatment of these neoplasms usually produces sequelae which can affect individuals' quality of life.[3,10,17]

Surgical management with resection of adjacent structures has been the most successful method for the treatment of malignant salivary gland neoplasms. However, ablative operations produce large tissue defects and functional impairment, usually affecting the patient's quality of life.[2,6]

Most studies dealing with quality of life questionnaires have applied them to patients treated for head and neck squamous cell carcinoma. However, little is known of patients with MSGN evaluated by quality of life questionnaires.[6,12-15] The aim of the present study was to evaluate quality of life in patients submitted to surgical treatment for MSGN.

Materials and Methods

This study was carried out between January 1998 and December 2002 (a 5-year period) at the Head and Neck Surgical Service, Heliópolis Hospital, São Paulo, SP, Brazil. During this period, there were 51 patients who had been treated by surgical excision for MSGN. For this study, however, only 12 patients with MSGN had their quality of life evaluated, the other 39 patients had either died of the disease or from other causes, or refused to participate.

These 12 patients with MSGN (10 women and 2 men, mean age: 49.4 years) had been diagnosed by histologic analysis as having pleomorphic adenoma (PA, 3 cases), polymorphous low-grade adenocarcinoma (PLGA, 2 cases), cystic adenoid carcinoma (CAC, 4 cases) and muco-epidermoid carcinoma (MEC, 3 cases). All patients were submitted to a surgical excision of the glandular neoplasm. Three patients with CAC received radiotherapy in addition to the surgical management. The principal data of these patients are detailed in Table 1. This study was approved by the Ethics Committee, Heliópolis Hospital, São Paulo, SP, Brazil; patients who agreed to participate were asked to sign a written informed consent.

Evaluation of quality of life

For evaluation of their quality of life, patients were given a self-administered questionnaire consisting of 4 topics: physical well-being, family relationships, emotional status and functional activities. Each topic was scored according to the following characterizations: (1) "not at all"; (2) "a little bit"; (3) "somewhat"; (4) "quite a bit"; and (5) "very much" (Table 2). The quality of life questionnaire was applied only once to each patient at the time when he or she returned to the Hospital

Table 1 - Clinical characteristics of the patients (n = 12).

	PA (3 cases)	PLGA (2 cases)	CAC (4 cases)	MEC (3 cases)
Mean age	54.7	60.0	56.0	35.7
Sex	1 male 2 female	2 female	1 male 3 female	3 female
Treatment	Surgery	Surgery	1 surgery 3 surgery + radiotherapy	Surgery
Follow-up (months)	22.7	32.5	26.7	35.3
Duration of neoplasm (months)	17.3	24.0	21.3	8.0
Size of neoplasm (range)	20 to 30 mm	20 to 25 mm	20 to 55 mm	10 to 15 mm
Site of neoplasm	Palate	Palate	3 palate 1 tongue	2 palate 1 buccal mucosa

Diseases: PA - pleomorphic adenoma; PLGA - polymorphous low-grade adenocarcinoma; CAC - cystic adenoid carcinoma; MEC - muco-epidermoid carcinoma.

for follow-up. At the consultation, each patient was given the quality of life questionnaire and instructed to circle the answer that best described their physical and emotional status in the period following surgery as compared with their life previously to the onset of their condition. The shortest time after surgery that a patient was contacted for quality of life evaluation was 4 months and the longest was 59 months (average: 29.3 months). Statistical analysis was performed with the Kruskal-Wallis test followed by the Dunn test; significance was set at $P < 0.05$.

Table 2 - Contents of the questionnaire used to evaluate patients' quality of life.

Topics	Items
Physical well-being	• loss of energy • nauseas • pain • feeling ill
Familiar relationship	• family support is deficient • communication about disease is poor • partner support is deficient
Emotional status	• feeling sad • life after treatment is bad • feeling nervous • worrying about death
Functional activities	• difficulty to work • difficulty in normal daily activities • difficulty to sleep

Based on the questionnaire of Radiation Therapy Oncology Group[11], funded by the National Cancer Institute, Philadelphia, PA, USA.

Results

The quality of life evaluation in the 12 patients of this study showed that, overall, they were not having difficulties in keeping their normal lifestyles (Table 3). However, patients with MEC (who were the youngest), despite presenting the smallest tumor and requiring the least aggressive surgical treatment, showed a significantly greater worsening in terms of their physical well-being and emotional status as compared with patients treated for PA ($P < 0.05$), and also in terms of functional activities as compared with those treated for PA and PLGA ($P < 0.05$).

Table 3 - Evaluation of patients' quality of life according to their answers using the score below to characterize their current status: (1 = not at all; 2 = a little bit; 3 = somewhat; 4 = quite a bit; 5 = very much).

Topics		Diseases (n = number of patients)											
		PA (n = 3)			PLGA (n = 2)		CAC (n = 4)				MEC (n = 3)		
Physical well-being*	Loss of energy	1	1	1	1	3	3	1	1	1	3	3	1
	Nauseas	1	1	1	1	1	4	1	1	1	2	1	1
	Pain	1	1	1	1	2	3	1	1	2	3	1	1
	Feeling ill	1	1	1	1	2	1	1	1	3	2	2	1
Familiar relationship(ns)	Family support is deficient	1	1	1	1	1	1	3	1	1	1	1	1
	Communication about disease is poor	3	4	2	3	3	1	1	5	3	5	3	3
	Partner support is deficient	1	1	1	1	3	1	3	1	5	1	1	1
Emotional status**	Feeling sad	1	2	1	1	1	1	1	1	3	3	2	3
	Life after treatment is bad	1	1	1	3	1	1	1	1	3	1	1	2
	Feeling nervous	1	1	1	1	2	3	1	1	3	3	1	2
	Worrying about death	1	3	1	1	3	1	1	1	1	3	1	3
Functional activities***	Difficulty to work	1	1	1	3	1	1	3	2	2	2	3	2
	Difficulty in normal daily activities	1	1	1	1	1	1	5	1	1	2	2	2
	Difficulty to sleep	1	1	1	1	1	1	1	1	1	2	2	1

Diseases: PA - pleomorphic adenoma; PLGA - polymorphous low-grade adenocarcinoma; CAC - cystic adenoid carcinoma; MEC - muco-epidermoid carcinoma. Statistical analysis performed with the Kruskal-Wallis test and the Dunn test. ns = not significant. * = Significant; PA *versus* MEC; P = 0.006. ** = Significant; PA *versus* MEC; P = 0.01. *** = Significant; PA *versus* MEC; P = 0.003. PLGA *versus* MEC; P = 0.039.

Discussion

Functionally, the mouth is an important organ for speech, swallowing, chewing, taste and salivation. After surgical treatment of malignant MSGN, large physical defects and functional impairment may result, severely affecting the patient's quality of life. In the present study, 12 patients with MSGN (3 benign and 9 malignant types) were evaluated for quality of life after surgical treatment. The site involved was mainly the palate (83%), predominantly in women (83%). These findings are similar to those of other studies on salivary gland neoplasms.[3,5,7,16]

Most studies using a quality of life questionnaire in patients with head and neck squamous cell carcinoma have applied the questionnaire pre-operatively and several times (3, 6 and 9 months) during recovery after surgery.[6,9,12-15,19] The postoperative quality of life scores – including disfigurement, chewing, speech, and shoulder function – were usually lower than those evaluated before treatment, with no significant overall improvement during follow-up.[9] However, partially dentate people without dentures feel worse and tend to report a worse quality of life and more problems with their teeth, trouble eating and trouble enjoying meals. Thus, oral rehabilitation is important and osteointegrated implants can help the patient to adapt and cope better with the oral changes after resection of tumors. Implants help to provide a sound base for dentures and improve chewing function, and this had a good influence on the psychological well-being in edentulous patients after primary surgery for oral cancer.[14]

In the present study, the quality of life questionnaire was applied only once during the patients' follow-up evaluation. Most of the patients had been treated for their salivary neoplasm for over a year (mean: 29.3 months). This amount of time was probably sufficient for these patients to have formed a clear opinion on any change in their quality of life and, thus, to provide relevant data on the questionnaire.

According to the analysis of the answers given by the patients they were having an acceptable quality of life. Patients treated for benign neoplasm presented, as expected, the best quality of life. They were, however, often sad and worried about death. Patients with malignant MSGN complained more frequently of loss of energy, pain, nervousness and, particularly, concern about death. They also complained of a sort of "loneliness" since their diseases were hardly ever discussed among their relatives. Those with MEC were the ones who reported the worst quality of life, although they were treated with a less aggressive approach than the other patients with malignant MSGN. This study did not find any specific reason why the patients with MEC reported the worst quality of life. One possible explanation is that being the youngest among all patients, they had greater psychosocial difficulties in dealing with life due to their lower experience with major medical problems.

In Finland, a recent study (2006) which, among many sociodemographic factors, analyzed quality of life in patients with oral and pharyngeal cancer, found that age and employment can influence the patient's quality of life after cancer treatment.[9,19] This study found that unemployed and young patients have much more difficulties in trying to regain their normal lives than employed and older patients.[9]

MSGNs are located mainly in the hard-soft palate, and oral squamous cell carcinoma occurs mainly in the lateral border of the tongue and floor of the mouth. Even after extensive surgery for malignant MSGN in the palate, there is a chance for a better improvement in the quality of life through use of a prosthetic reconstruction, while patients who undergo surgery for a malignant neoplasm in the tongue and/or floor of the mouth will hardly have the function of that organ recovered satisfactorily.

In accordance with this analysis, a recent study[1] on the functional and health-related quality of life outcomes for primary surgery and reconstruction of the tongue and soft palate in patients treated for squamous cell carcinoma concluded that extensive resections of the anterior tongue had resulted in a poorer quality of life outcome when compared to soft palate resections. Additionally, the local recurrence and survival data also showed an improved survival for the soft palate group compared to that of the anterior tongue group, emphasizing the positive results for primary surgery in the former part of the oropharynx.

Conclusion

All patients presented some degree of disturbance to their lives, but they were able to carry on with their daily activities. Among patients with malignant MSGN, perceived changes to quality of life are more associated with the age of development of the neoplasm and type of disease than with the therapy's degree of aggression.

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