

# Clinical assessment of patients undergone adjuvant Radiotherapy suffering Parotid Salivary Gland Carcinoma submitted to Surgery and Facial nerve Reconstruction: a retrospective study

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## Introdução

Parotid cancer, regardless of the histological subtype, is a clinical condition that, when treated surgically, may have associated damage of the functionality of the facial nerve. Moreover, surgical resection leaves functional sequelae such as facial paralysis, paresis of some branches, and aesthetic defects that affect the quality of life. Radiotherapy has shown improvement in local control and survival rates; however, its impact in the complete recovery of facial motricity remains controversial.

## Casuística e Métodos

The present study aims to evaluate the impact of adjuvant radiotherapy on facial nerve functionality in patients diagnosed by Parotid Carcinoma who underwent Parotidectomy and facial nerve microsurgical reconstruction, with or without adjuvant radiotherapy at the A.C. Camargo Cancer Center during the period 2008-2019.

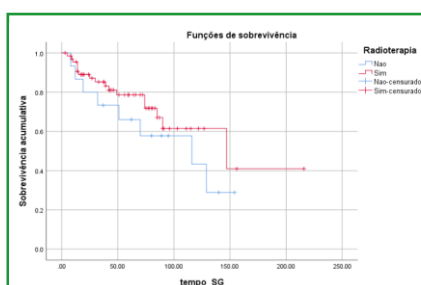
From an observational, descriptive, and retrospective analysis of electronic medical records and 04 groups were composed: a) those who underwent parotidectomy without facial nerve reconstruction and RT; b) those who underwent parotidectomy with facial nerve reconstruction and without RT c) those who underwent parotidectomy without facial nerve reconstruction and done RT; d) those who underwent parotidectomy with facial nerve reconstruction and done RT. Demographic data, characteristics of the primary tumor and the therapy performed were analyzed, and data of the nerve functionality by the House & Brackmann scale (HB) was collected, with a follow-up time of more than two years. Statistical analyses were done using the SPSS.25 version with a confidence level of 95% and the overall survival (OS), disease-free survival (DFS) and local control (LC) curves were calculated using the Kaplan Meier and for differences between them the logRank test was performed.

## Resultados

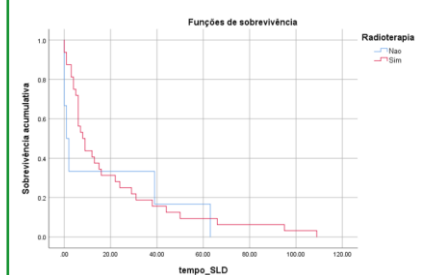
Among data of 92 patients collected, 49 (52.2%) were male and 43 (47.8%) were female. 89 patients (96.7%) underwent Parotidectomy, 45 (50.6%) partial and 44 (49.4%) were total. In addition, 10 (10.9%) patients underwent microsurgical reconstruction of the facial nerve and in 9 patients (9.8%) the sural nerve of the leg was positioned. On the other hand, 72 patients (78.3%) underwent RT and 20 (21.7%) of them did not

## Resultados

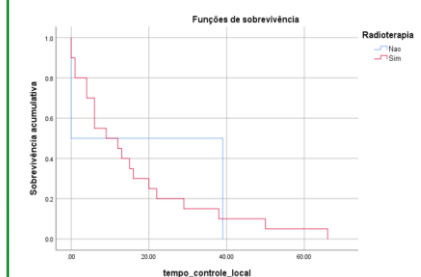
After the evaluation of nerve functionality by the HB scale in the different phases of oncological treatment, 48 (52.2%) had normal facial pattern, 15 (16.3%) with paresthesia and 29 (31.5%) with permanent paralysis. The Spearman's test was performed and a positive correlation between the number of sessions of RT and the evaluation of HB scale after 01 year of follow-up was established ( $\rho$ : 0.32 /  $p$ : 0.04); a positive correlation between total dose of RT and HB scale analysis at the preoperative phase was statistically significant ( $\rho$ : 0.28 /  $p$ : 0.04) as well. OS, DFS and LC rates were higher in patients submitted to RT for primary tumor management than those who did not, but without statistical significance ( $p$ : 0,29; 0,52; 0,83 respectively).



**OS:**  
60% vs. 42% after 125 months for who did and did not RT ( $p$  value: 0,29; Mean: 127 months / SD: 13,56 / Median: 129 r: 105-170 months)



**DFS:**  
42% vs. 34% after 17 months for who did and did not RT respectively ( $p$  value: 0,52 / Mean: 20 months / SD: 4,29 / median: 7 months – r: 4-9 months)



**LC:**  
50% for both groups after 16 months who did and did not RT; however, LRC was 9 times higher in group who did RT than who did not ( $p$  value: 0,83 / Mean: 16 months/ SD: 3,83 // Median: 9 / r: 8-23)

## Conclusões

RT for locoregional control has shown better clinical success rates in patients treated for Parotid Carcinoma. According to our results, OS and DFS rates were increased in patients submitted to RT. The evaluation of nerve functionality before and after Parotidectomy should be done to establish the role of each therapy in multimodal management regarding facial motricity that has already decreased. Prospective studies will allow a better understanding of the role of RT in quality of life in patients with nerve dysfunction before and after microsurgical reconstruction.

## Contato

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