

Surgical salvage after radiation failure in early laryngeal cancer

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Background: Primary treatment for early laryngeal carcinoma can be based either on radiotherapy (RT) or on surgery, with similar results regarding overall survival. When radical intent radiotherapy fails, however, surgery represents the only available option to control the disease. Which surgery to employ is a debated field and, even if many authors still recommend total laryngectomy (TL) as salvage procedure after RT failure, many recent evidences support conservative laryngectomies as valid alternatives on both oncologic and functional points of view.

Patients and methods: From an existing database of laryngeal cancer patients, we identified 129 patients which underwent a salvage surgery after a RT failure for early laryngeal cancer. Based on the clinical records, we assessed survival results (overall survival, disease-free interval), rate of complications (decannulation time, naso-gastric tube removal, carotid artery rupture, fistula formation, wound dehiscence or infection) and functional results according demolitive or conservative salvage surgery.

Results: Among the 129 patients, 100 underwent TL, 14 supracricoid procedures (CHP/CHEP), 9 laser cordectomy, 4 endoscopic resections and 2 fronto-lateral laryngectomy. Of these, 61 (47.3%) presented with a second recurrence after surgery and in only 8 cases a second salvage surgery was attempted. TNM of the original lesion, re-staged TNM (rTNM) after RT-failure, time of relapse, tumor site, age, curative RT dose and field and the complications were assessed for their prognostic role. TNM, rTNM and tumor site had a statistically significant impact in univariate setting; while multivariate analysis showed that rTNM was the main prognostic factor in our series. Among post-Rt surgical complications we reported a high incidence of pharyngeal fistula in 28 out of 100 TL.

Conclusions: Accurate imaging assisted re-classification of recurrence after RT is a most important prognostic factor in determining type of salvage surgery. Relapsed cancer after primary RT seems to have the same chance to be controlled than original previously untreated ones at the same stage, therefore, criteria for planning conservation laryngectomies might be unchanged for either original or recurred early cancer; however, a higher risk of complications and longer rehabilitation time have to be considered in salvaged group.