severe toxicities. Most failures were out-of-field and distant failures. Future clinical trial with combination of cesium 131 implant and immuno-therapy is under development.


**2886**

The Value of Preoperative Radiotherapy in the Treatment of Locally Advanced Nasal Cavity and Paranasal Sinus Squamous Cell Carcinoma: A Single Institutional Experience

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**Purpose/Objective(s):** The value of preoperative radiotherapy in the comprehensive treatment of locally advanced nasal cavity and paranasal sinus squamous cell carcinomas (NPSCCs) remains controversial. The aim of our study was to compare the efficacy of preoperative and postoperative radiotherapy and further to explore the value of preoperative radiotherapy in the treatment of locally advanced NPSCCs.

**Materials/Methods:** One hundred and forty-two patients with locally advanced NPSCCs treated with pre- / postoperative radiotherapy plus surgery from our institution between January 1998 and December 2014 were retrospectively reviewed. All enrolled patients were divided into the two groups: preoperative radiotherapy (Pre-S RT) group and postoperative radiotherapy (PORT) group. The overall survival (OS), local control (LC), distance metastasis free survival (DMFS) and disease-free survival (DFS) between treatment groups were evaluated.

**Results:** A higher proportion of adverse prognostic factors, such as orbital content invasion, low RT dose, and 2D/3DCRT were found in preoperative radiotherapy group, which were confirmed to be associated with overall survival and/or local control by univariate and multivariate analysis. The median radiation dose of preoperative and postoperative radiotherapy was 60Gy and 69Gy (P value < 0.001). At a median follow-up of 49 months, preoperative radiotherapy achieved good LC, DFS, DMFS, and OS, not worse than postoperative radiotherapy. The 5-year OS, LC, DMFS, and DFS of Pre-S RT group were 55.1%, 91.1%, 76.7%, and 49.0%, while those of PORT group were 52.2%, 60.0%, 76.6%, and 47.3%, respectively (P value > 0.05). After preoperative radiotherapy, the complete resection rate reached 93.5%, significantly higher than 31.2% in the postoperative radiotherapy group (P value < 0.001). Among the 50 patients with orbital contents invasion, the actual orbital content preservation rate of preoperative radiotherapy group was nearly 76%, higher than that of postoperative radiotherapy group (57%). The pathologic complete response (pCR) rate of the preoperative radiotherapy group was up to 30.6%. Compared with non-pCR group, pCR group had significantly higher 5-year OS, LC, DFS (P value < 0.05), and similar 5-year DMFS (P value > 0.05).

**Conclusion:** In the absence of randomized controlled studies to guide treatment, this study confirmed the value of preoperative radiotherapy. Under the condition of more adverse factors, preoperative radiotherapy plus surgery not only achieved similar clinical outcomes to surgery plus postoperative radiotherapy, but also significantly improved complete resection rate and increased the chance of orbital contents preservation. More importantly, nearly a third of patients achieved pCR in the preoperative radiotherapy group, and this subgroup had the best prognosis.


**2887**

Low-Dose Fractionated Radiation with Induction Docetaxel and Cisplatin Chemotherapy followed by Concurrent Cisplatin and Radiation Therapy in Locally Advanced Nasopharyngeal Cancer, Randomized Phase II-III Trial

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**Purpose/Objective(s):** The primary endpoint was to assess the efficacy of LD FRT given in combination with induction chemotherapy (IC) Docetaxel and Cisplatin followed by radiation therapy with concurrent Cisplatin in patient with locally advanced nasopharyngeal carcinoma. The secondary endpoints were 3-years overall survival (OS), Loco-regional control (LRC) and metastases-free survival (MFS).

**Materials/Methods:** Single institute, phase II-III, prospectively controlled randomized trial Patients aged 18-70 years with WHO type II and III, stage III-IVB nasopharyngeal carcinoma, ECOG performance score of 0-2, with adequate hematological, renal, and hepatic function were eligible All patients received 2 cycles of IC Docetaxel 75mg/m2 and Cisplatin 75mg/m2 on day 1 and 22 followed by definitive course of radiation therapy 70Gy in 33 fractions, using IGRT, with concurrent Cisplatin 25 mg/m2 for 4 days on day 43 and 64. Patient were randomly assigned to either receive IC only or IC with LD FRT 0.5 Gy twice daily 6 hours apart for 2 days. Sample size was estimated using Simon Optimal Two-Stage Designs for Phase II Clinical Trials. The Complete Response rate (CR) for the chemotherapy arm was 25%. A total of 108 sample size was calculated to detect a difference of 15% in CR rate in LD FRT treatment arm under a power of 80% and a confidence level of 90%. Simple randomization was utilized using random-numbers that generates random sequences in order to allow for unbiased treatment allocation among the study and the standard arms. Random numbers were generated using computer software program. Response to treatment in term of CR at the primary site, lymph node site and overall response among the two comparative arms were summarized using contingency tables and compared using Chi-squared test. Clinical response at the primary site and lymph nodes were assessed using RECIST criteria. Tolerance was scored using revised NCI (CTCAE) version 4.03. Analysis were done based on intention to treat. The probabilities of OS, LRC, and MFS were calculated using the Kaplan-Meier estimator with variance estimated using Greenwood’s formula. Survival curves were compared using log-rank test. P-value< 0.05 was considered significant

**Results:** Between March 31, 2013, and February 11, 2018, 108 patients were enrolled in this trial. They were randomly assigned to LD FRT in combination with IC (54 patients) and IC alone (54 patients). Data were available for all patients, with a median follow up of 37 months (3-72). All patients completed planned treatment except one patient who died after IC and was included in the analysis. Toxicity abd post IC phase treatment responses were not significantly different between the two treatment arms. 3-years OS (94 vs 93 p =0.8), LRC (84.1 vs 91.6 p =0.25), and DMFS (84.8 vs 87.5 p =0.58) for LD FRT with IC arm and IC only arm respectively.

**Conclusion:** No significant difference was observed between treatment arms indicating lack of benefit from adding LD FRT to IC in locally advanced Nasopharyngeal carcinoma.