

AbstractID: 12575 Title: Intensity-modulated radiation therapy (IMRT) for the Para-nasal sinus (PNS) malignancies: Outcomes from Fox Chase Cancer Center (FCCC).

Purpose: Due to the difficulties of air tissue interface interactions as well as the close proximity to the optical apparatus, tumors in the PNS region treated with IMRT may have increased local failure and higher complications. The clinical outcome of patients treated with IMRT for PNS malignancies are reported.

Method and Materials: Between May 2001 and June 2008, 31 patients with PNS malignancies were treated at FCCC with IMRT to a median dose of 60 Gy in 30 fractions. There were 13 males and 18 females, with median age 68 years. Seventeen (59%) patients had AJCC stage III/IV disease at presentation. Twenty one of 31 patients presented with clinical stage N0 neck disease. Histology was: 14 squamous cell, 3 adenocarcinoma, 3 adenoid cystic, 6 mucosal melanoma, 5 others. The base of skull was treated in 3 patients with perineural invasion. Median RT values to optic apparatus: Optic chiasm D_{max} 22 Gy (range: 1-48); right and left optic nerve D_{max} were 39, 37 Gy (range: 2-62; 2-65) and right, left parotids were 17; 25 Gy (range: 7-30; 5-53) respectively. Outcomes and toxicities were measured.

Results: There were no grade 3 or 4 ocular or salivary function related toxicities. With a median follow up of 27 months (range: 4-98), the 2- and 5-year local control and overall survival rates were 89%, 82% and 75%, 66%, respectively. The 2-year locoregional control rates were 89% for stage I/II and 79% III/IV, 89% N0, 50% for N1/2, 71% squamous cell and 100% for other histologies, 100% negative margins, 78% for positive margins. Four patients had local recurrence, 2 residual disease, 2 regional (treated prior) and 4 distant metastases (1 squamous cell, 1 adenoidcystic ca, 2 melanomas). No marginal failures were seen.

Conclusion: IMRT appears to be a safe and effective treatment for paranasal sinus tumors.