Abstract ID (Temp. Abst. ID): 5574(75891)

Title: HPV prevalence and prognostic value in a prospective cohort of 255 patients with locally advanced squamous cell carcinoma of the head and neck treated with chemoradiation therapy at Centre Hospitalier de l'Université de Montréal: A single-center experience.

Poster Board #: 16E

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Abstract:

Background: HPV has recently been recognised as a good prognostic factor in head and neck (H&N) cancer. However, most of the data is derived from randomised trials with different treatment options or small heterogeneous cohorts. This trial aims to determine the prevalence and prognostic impact of HPV on overall survival (OS), disease-free survival (DFS), local regional control (LRC) and treatment toxicity, in a large cohort of patients with locally advanced SCCHN from one centre, treated with concomitant platinum-based chemoradiation therapy (CRT), followed prospectively. **Methods:** Prospective data on efficacy and toxicity was available for 560 patients treated with concomitant CRT. Of these, 270 fixed and paraffin embedded specimens were collected. DNA was extracted from specimens and HPV detection was performed as previously described (Coutlйe, J Clin Microbiol, 2006). Analysis was performed using Kaplan-Meier survival curves, Fisher's test for categorical data and log-rank statistics for failure times. **Results:** Median follow-up was 4.7y. DNA extraction was successful in 255 cases. HPV prevalence was 68.6%, and 53.3% for HPV-16 specifically. For HPV+ and HPV- respectively, median LRC were 8.9 and 2.2 years (log-rank p = 0.0002), median DFS were 8.9 and 2.1 years (log-rank p=0.0014) and median OS were 8.9 and 3.1 years (log-rank p=0.0002). Survival was statistically significantly different based on HPV-genotype, stage, treatment period and chemotherapy regimen. COX adjusted analysis for T, N, age, and treatment remained significant (HR 0.45, p=0.004). Subgroup analysis for genotype, TNM, primary site and chemotherapy regimen will be presented at the meeting. **Conclusions:** An increasing proportion of oropharyngeal cancer is linked to HPV. This large study with a cohort from one centre confirms that HPV status is strongly associated with improved prognosis among H&N cancer patients receiving CRT, and should be a stratification factor for clinical trials including H&N cases. Toxicity of CRT is not modified for the HPV population.