PRETREATMENT FDG-PET/CT CAN PREDICT OUTCOME IN HEAD AND NECK CANCER PATIENTS TREATED WITH CONCURRENT CHEMORADIATION

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Introduction : Concurrent chemoradiation(CCRT) has had a significant improvement for organ preservation and survival in the treatment of head and neck cancer.

Background : FDG uptake intensity in head and neck cancer has some prognostic value.

Purpose : The aim of study was to evaluate role of FDG uptake intensity as a prognostic value in the head and neck cancer.

Methods : We reviewed pretreatment FDG-PET/CT of 49 patients taken from January 2007 to May 2008 retrospectively. Maximal FDG uptake intensity of primary site was estimated as a prognostic value with 1-year disease free survival(DFS) as a primary endpoint.

Results : The median SUV of maximal intensity of primary site was 15.7(3.2-41.8). The primary treatment were composed of surgery followed by radiation(n=20, 40.8%), induction chemotherapy followed by radiation(ICT, n=11, 22.4%), concurrent chemoradiation(n=18, 36.8%). 24 patients(49%) had SUV<15 compared with 25 patients(51%) with SUV more than 15. 1-year DFS was significantly better in low SUV group than high SUV group(100%(11/11) vs 57.1%(4/7), p=0.021) in patients treated with CCRT. However 1-year DFS in all patients(CCRT+ICT+SURGERY) showed also increasing trend in the low SUV group but was not statistically significant(75%(18/24) vs 68%(17/25), p=0.592). 1-year overall survival(OS) was significantly better in low SUV group than high SUV group(100%(11/11) vs 57.1%(4/7), p=0.021) in patients treated with CCRT. 1-year OS in all patients showed also increasing trend in the low SUV group but was not significant(83.3%(20/24) vs 72.0%(18/25), p=0.347).

Conclusion :SUV of primary site was significantly associated with outcome in head and neck cancer patients treated with CCRT. However there was no significant association in all patients treated with CCRT, ICT followd by radiation and surgery followed by radiation. This may be due to small sample size and short follow up duration.