

### EP-1108 MMF Reduces Acute Radiation Dermatitis in Head and Neck Squamous Cell Carcinomas patients

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#### Purpose or Objective

The aim of this study was to investigate the effect of mometasone furoate cream (MMF) on radiation dermatitis in patients with head and neck squamous cell carcinomas.

#### Material and Methods

The study planed involves 80 patients with head and neck squamous cell carcinoma. They were scheduled for radical radiotherapy to bilateral neck and the radiation doses of PTV of bilateral neck are same. The patients were randomized to receive MMF on their right neck or left neck, while other side neck won't accept any drugs. The MMF was applied on the irradiated skin once a day, starting on the first day after radiotherapy and continuing until two weeks after radiotherapy, or until the corresponding skin broken. The intensity of the acute radiation dermatitis was evaluated on a weekly basis regarding the modified Radiation Therapy Oncology Group (RTOG) score and pain and itch stages.

#### Results

62 patients had been enrolled, including 8 neck esophageal cancer patients, 5 hypopharyngeal carcinoma patients, the other 49 nasopharyngeal carcinoma patients. Thus 41 patients and 82 targets were analysis. We found significant difference in severe acute radiation dermatitis (ARD) between the experimental side and the control side at the radiotherapy finished assessment. (P=0.039). MMF could reduce the ARD stages when the skin radiotherapy dose is <6000c GY (P=0.01; When the dose is ≥6000c GY using MMF showed no difference (P=0.699). Using MMF could significantly reduce itch and pain of test side skin no matter about the radiotherapy dose and ARD stage (P=0.000).

#### Conclusion

This study showed that MMF inunction after higher dose of radiation (over 50Gy) can prevent acute radiation dermatitis, especially when the skin dose is <6000cGY.

### EP-1109 Psychiatric comorbidity among nasopharynx cancer survivors who received radiotherapy in South Korea

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#### Purpose or Objective

This study aimed to analyze the prevalence of mental disorders in nasopharynx cancer survivors using claims data from the Health Insurance Review and Assessment Service in South Korea.

#### Material and Methods

We investigated the prevalence of mental disorders 1 year before radiotherapy and the patterns of the mental disorders were analyzed according to time sequence. Descriptive statistics were used to estimate the frequency of mental disorders based on the first radiotherapy date. We also analyzed the characteristics of the disease according to age and time sequence. The occurrence of mental disorders in patients with nasopharynx cancer was analyzed using the Kaplan-Meier method, and differences between multiple variables were tested using the log-rank test.

#### Results

We confirmed the prevalence of mental disorders in a nationwide cohort of 1,819 patients who were diagnosed with nasopharynx cancer between January 1, 2010 and December 31, 2014. A total of 144 patients with nasopharynx cancer were diagnosed with a mental

disorder 1 year prior to radiotherapy. The median age at diagnosis for patients with nasopharynx cancer was 54 years and for cancer survivors with a mental disorder was 56 years. Of these patients, 51 were diagnosed with anxiety disorder (35.4%) and 46 with depression during their first visit (31.9%). The overall frequency of mental disorders peaked before radiotherapy and decreased during radiotherapy. While the highest rate of anxiety was noted in before radiotherapy, depression was relatively high after radiotherapy. The age of patients with mental disorders after radiotherapy may be associated (p = 0.052) among clinical variables, such as sex (p = 0.117) and cisplatin-based chemotherapy use (p = 0.360).

#### Conclusion

Mental disorders in nasopharynx cancer survivors showed different longitudinal patterns of prevalence, depending on age and the nature of the disease. Routine screening and early intervention for distress could increase the quality of life of cancer survivors.

### EP-1110 PD-L1 expression in recurrent head and neck squamous cell carcinoma

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#### Purpose or Objective

Programmed death-ligand 1 (PD-L1) expression is considered as a predictive marker for anti-PD-1/PD-L1 therapy. The aim of our study was to analyse the changes in PD-L1 expression in head and neck cancer treated with radio(chemo)therapy at first diagnosis and at local recurrence.

#### Material and Methods

PD-L1 immunohistochemistry was performed on paired-tumor samples (i.e. before and after irradiation). PD-L1 expression was scored semi-quantitatively in tumor cells (TC) and immune cells (IC) as followed: score 0= 0%; 1=< 5%, 2=6-49% and 3= ≥ 50% cells. PD-L1 positivity was defined as PD-L1 expression scored 1 or higher in TC and/or IC.

#### Results

Forty-four patients with HNSCC initially treated with radio(chemo)therapy presented with a histologically confirmed local recurrence and were included in this study. Median time from diagnosis to local recurrence was 12 months (4-206 months).

Sixteen (36.3%) out of the 44 patients had PD-L1 expression on TC before radiation therapy: 4 (9.1%) had score 1, 8 (18.2%) score 2 and 4 (9.1%) score 3 PD-L1 expression. In 10 patients (22.7%), IC did not show any expression of PD-L1 while in 8 (18.2%), 16 (36.4%), and 10 (22.7%) patients, PD-L1 expression was scored 1, 2 and 3, respectively.

At relapse, 7/36 patients (19.4%) had positivated PD-L1 expression on TC while the opposite was observed in 6 patients (16.7%). Similarly, the PD-L1 analysis on IC showed a positivation in 2 patients (5.5%), while it was the contrary in 5 (13.9%) other patients.

Overall survival was lower in patients with positive PD-L1 expression in IC of the stroma at initial diagnosis (2-years overall survival 90% versus 62.5%, p=0.032). At the time of recurrence, there was no significant difference in overall survival regardless of the PD-L1 status on any cell populations.

#### Conclusion

The PD-L1 expression variation rate after radiation was 36.1% on TC and 19.4% on IC. These modifications in PD-L1 expression are potentially induced by irradiation. This suggests that radiotherapy could modify the immunogenicity of the tumor and the mechanisms