Endocrine and neuroendocrine tumours

Comparison of clinical outcome in pulmonary neuroendocrine carcinoma (NEC) and extra-pulmonary NEC

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Aim/Background: Systematic treatment strategy for Neuroendocrine carcinoma (NEC) has not been established. Extra-pulmonary NEC is a rare and highly aggressive neoplasm for which the optimal chemotherapy remains unclear. Guidelines for treating extra-pulmonary NEC advocate the use of Platinum-based chemotherapy, although limited studies have been reported. The objective of this study was to evaluate the clinical outcomes of the NEC treated with chemotherapy.

Methods: NEC patients were identified from chemotherapy registries, hospital charts, and pathology coding at Saga University from January 2011 to December 2014. Patients with metastatic or locally advanced NEC (Ki67 ≥ 20%) who received chemotherapy were selected for analysis. We defined the primary end point of the study as the identification of the benefits of the treatment that conforms to the pulmonary NEC for extra-pulmonary NEC. In all analyses, patients in the pulmonary NEC group were compared with those in the extra-pulmonary NEC group.

Results: In the total of 58 patients identified, primary tumors were mainly located in the lung (75.9%) extra-pulmonary (24.1%). Median Overall survival (OS) from diagnosis was 29.6 months for all patients. 6 patients (10.3%) in a localized stage underwent surgery. 35 patients received palliative first-line chemotherapy for metastatic disease. Irinotecan plus cisplatin or etoposide plus cisplatin (EP) were most commonly selected for the first-line chemotherapy and 32 patients received a second-line therapy (mostly amrubicin). First-line chemotherapy for patients with pulmonary NEC / extra-pulmonary NEC (n = 25/10) Partial response (PR) was observed in 72/40%, stable disease (SD) in 16/50% and median OS was 26.8/17.1 months (P = 0.591).

Conclusions: There was no significant difference between effects of the platinum-based chemotherapy that conforms to the pulmonary NEC for extra-pulmonary NEC, but our data show treatment outcome for extra-pulmonary NEC tended to be inferior than pulmonary NEC. Additional clinical and molecular tumor data are needed to define possible subgroups and optimal treatment strategy for this rare disease entity in order to individualize future treatment of these patients.

Disclosure: All authors have declared no conflicts of interest.