



## AB012. OS03.02. Paraneoplastic syndrome and survival in thymic epithelial tumors the IU experience

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**Background:** Paraneoplastic syndromes (PNS) are commonly associated with thymic epithelial tumors (TET), especially thymoma. The purpose of this analysis is to examine the clinical impact of PNS in TET.

**Methods:** Patients with pathologically diagnosed TET at a single institution were reviewed retrospectively. The primary and second endpoints for this study were overall survival (OS) and recurrence rates. Clinical factors included age, gender, race, performance score, histology, WHO classification, Masaoka stage, post-operative status, tumor size and number of positive lymph nodes. Cox proportional hazards model was used to identify significant prognostic factors for OS between different PNS groups.

**Results:** From 1975 to 2016, 733 patients with TET [thymoma (71%), thymic carcinoma (26%) and neuroendocrine tumor (3%)] were seen at Indiana University. Of these, 203 (28%) had PNS which included myasthenia gravis (MG) (n=130), red cell aplasia (n=20), hypogammaglobulinemia (n=14), systemic

lupus erythematosus (n=12) or other PNS (n=64). Among these, 37 (18%) had two or more types of PNS. PNS were seen in 35% (183/523) of T, 9% (16/187) of thymic carcinoma and 15% (3/20) of NET (P<0.001), respectively. Comparing to those without PNS, patients with PNS were more likely at younger age (P<0.001), being women (P=0.003), with histology of thymoma (P<0.001) and early stage of diseases (P<0.001). There was no significant difference in OS and pattern of failures between patients with and without PNS, and patients with thymoma or thymic carcinoma (all P>0.05). Among those failed, 60% versus 58% and 40% versus 41% had intrathoracic failure and distant failures, for patients with and without PNS (P>0.05), respectively. Significant adverse factors for survival were same for patients with and without PNS, including: older age, advanced stage, number of positive lymph nodes and TC histology (all P values <0.05). However, post-operative R1/2 status was adverse prognostic factor only in the PNS (-) group (P=0.001).

**Conclusions:** PNS is common in TET, more in thymoma, younger female patients, with earlier stage disease and more likely to have resectable tumors. Presence of PNS does not appear to impact OS and pattern of failure in TET patients.

**Keywords:** Thymic epithelial tumor (TET); overall survival (OS); thymoma; paraneoplastic syndrome (PNS)

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