AB048. PS02.12: Pre-operative CT staging is an accurate predictor of post-operative histological staging

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Background: Clinical experience with thymic epithelial tumours (TETs) is to a certain extent limited due to their low incidence rate. The Masaoka-Koga staging system has been known as the strongest prognostic factor for both survival and recurrence of thymic tumours but there is no standardised way to assess clinical staging in pre-operative images. As appropriate staging can influence patients' need for adjuvant or neoadjuvant therapy, it is important to evaluate if current imaging can accurately predict post-operative staging.

Methods: A retrospective study comparing the pre-operative radiological staging and post-operative pathological staging of 34 patients was carried out in relation to all patients operated on in a single Thoracic Surgical centre in the 3-year period 2013–2016. The standard cross-sectional imaging was CT in all 34 patients. Additional PET-CT was carried out in 5/34 patients and MRI in 1/34 patients. Pre-operative CT staging results were compared to post-operative histopathological staging. A Kappa statistic was used to evaluate agreement between the assessments.

Results: 61.8% (21/34) of the CT stages agreed with the pathology stages: 78.6% (11/14) in stage I; 41.7% (5/12) in stage II; 40% (2/5) in stage II; and 100% (3/3) in stage IV. There was moderate agreement between the preoperative CT assessment (kappa coefficient =0.42, P value ≤0.01) and the post-operative pathological staging.

Conclusions: Pre-operative CT staging of TETs correlates reasonably well with post-resection histological staging Further analysis of a larger sample size may clarify utilization of other imaging techniques such as CT-PET and/or MRI may improve agreement between pre-operative radiology staging and post-resection histological staging standardization of imaging techniques for pre-operative staging, perhaps on an international basis would be helpful.

Keywords: Thymoma; staging