AB015. Importance of an international refining of histopathological criteria of pT in thymic epithelial tumors: a RYTHMIC/ITMIG study

Thierry Jo Molina[1], Anja Roden[2], Malgorzata Szolkowska[3], Andre Moreira[4], Shigeki Shimizu[5], Andrew Nicholson[6], Alexander Marx[7]

[1]Pathology, Université de Paris, Necker Enfants Malades and Robert Debré Hospitals, APHP, Paris, France; [2]Pathology, Mayo Clinic, Rochester, Rochester, MN, USA; [3]Pathology, National Tuberculosis and Lung diseases Research Institute, Warsaw, Poland; [4]Pathology, New York University, Langone Medical Center, New York, NY, USA; [5]Pathology, NHO Kinki-chuo Chest Medical Center, Osaka, Japan; [6]Pathology, Royal Brompton and Harefield NHS Foundation Trust, London, UK; [7]Pathology, University Medical Center Mannheim, Mannheim, Germany

Correspondence to: Thierry Jo Molina. Pathology, Université de Paris, Necker Enfants Malades and Robert Debré Hospitals, APHP, Paris, France. Email: thierry.molina@aphp.fr.

Background: Since 2015, thymic epithelial tumors (TET) included in the French RYTHMIC network were independently reviewed by two expert pathologists using digitalized slides. Our experience was that interpretation of the pT stage was not strongly reproducible. Therefore we wanted to evaluate this observation at an international level.
Methods: We first selected cases that were discordant between RYTHMIC members and submitted them to ITMIG experts. A test series of 5 RYTHMIC digitalized cases was submitted and independently reviewed by ITMIG experts. Three cases were classified from pT1a to pT3, one case from pT1b to pT3 and one from pT1a to pT2 by ITMIG experts. This test series was followed by meetings between ITMIG experts to better define consensus criteria on slides. After this phase, a validation study of ten independent new slides raising pT1b, pT2, pT3 (lung) diagnosis was submitted with calretinin, p63 and elastic fibers staining.
Results: The pT stage concordance was higher during the validation phase (0.68±0.15) than during the test phase (0.50±0.05). However, there was still substantial discordance as no slide was assigned the same pT stage by all pathologists Discussion following the validation series identified histopathological criteria that might help to reach consensus. Indeed, underlining of the outer pericardial layer located below the fibrous part of pericardium was important not to overdiagnoses a minimal pericardium involvement. Agreement on the identification on slides of the mediastinal pleura was still an issue. Calretinin staining as well as importance of the quality and interpretation of the staining for elastic fibers of the outer and inner elastic lamina of lung visceral pleura were important for better defining lung invasion. p63 staining was important to better differentiate tumor cells from inflammation. Overall there was a consensus that when hesitating between two stages, it appeared important to apply the lowest stage.
Conclusions: Reproducibility of pT Staging of TET is an issue at an international level at least in some cases. pT definitions deserved to be additionally detailed using slides in the aim to better define consensual histopathological criteria that could increase pathologist reproducibility in future trials.
Keywords: pTNM; histopathology; thymic epithelial tumors (TETs)

Acknowledgments

Funding: RYTHMIC.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

doi: 10.21037/med.2021.ab015
Cite this abstract as: Molina TJ, Roden A, Szolkowska M, Moreira A, Shimizu S, Nicholson A, Marx A. Importance of an international refining of histopathological criteria of pT in thymic epithelial tumors: a RYTHMIC/ITMIG study. Mediastinum 2021;5:AB015.