Title: Usefulness of rapid on-site microscopic evaluation (ROME) of core biopsy specimen of EBUS-TBNA

Body: Background: EBUS-TBNA is performed to harvest cytologic and core-biopsy specimens in patients with mediastinal lesions. Rapid cytologic examinations of the sample are expected to increase the diagnostic rates. We studied the value of USB microscope as Rapid On-site Microscopic Evaluation (ROME) of core-biopsy specimens. Methods: We performed ROME in 20 core-biopsy specimens sampled by EBUS-TBNA. The specimens were divided into five groups according to the microscopic findings. The group I was classified when whitish tumor islets were not found. The group II has one or several tiny suspicious tumor islets. The group III has less than 5 visible tumor islets, the group IV 5 – 10, and the group V more than 10 tumor islets. The ROME was compared with the final pathologic examination Results: Among 20 specimens, 3 (15%) were in group I, 2 (10%) in group II, 5 (25%) in group III, 7 (35%) in group IV, and 3 (15%) in group V, respectively. When compared with the pathologic examination, clinical relevancy of the sample was 100% (10/10) and the diagnostic rate was 90% (9/10) when the groups of IV and V were combined. In group III, those were 70% (5/7) and 57% (4/7) respectively. In the groups I and II, there were no clinical relevancy and diagnostic values. Conclusion: ROME was a simple and useful method to predict the diagnostic value of EBUS-TBNA biopsy specimens on site.