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Role of minimal panel immunostaining in accurate diagnosis of lung cancer using small biopsies

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Introduction: In small biopsies standard morphology cannot specifically subtype the tumor. Histologic subtyping of lung cancer is mandatory for treatment. Immunohistochemical staining is a valuable tool for diagnosis of lung cancer.

Aim: The aim of this study was to evaluate the diagnostic accuracy of minimal panel of Napsin A, CK 5/6 and CD 56 versus H&E of lung cancer in small biopsies.

Methods: 84 small sized tissue samples were obtained. 70 samples were obtained via fiberoptic bronchoscope (FOB) and 14 samples were obtained with transothoracic CT guided tru-cut needle. All samples were stained with H&E for morphologic diagnosis, then the same samples were stained with immuno- histochemical (IHC) staining including 3 antibodies (Napsin A, CK 5/6 and CD 56), then we compared the diagnostic yield of both methods.

Results: After H&E staining, according to WHO 2004 classification: 40 cases were adenocarcinoma (AC), 10 were squamous cell carcinoma (SCC), 22 were large cell carcinoma (LCC) and 12 were neuroendocrine tumors (NET). After IHC: According to WHO 2015 classification, 54 (64.3%) were AC, 11 (13.1%) were SCC. 11 (13.1%) were NET and 8 (9.5%) were Non-Small Cell Lung Cancer NSCLC (Counterpart of large cell carcinoma in 2004 WHO classification). Napsin A was expressed in 98% (53/54), CK 5/6 in 90.9% (10/11) of SCC and CD 56 in 100% (11/11) of neuro- endocrine tumors.

Conclusion: IHC with Napsin A, CK 5/6 and CD 56 has a more diagnostic value in precise typing of different cell types of lung cancer than H&E in small biopsies.

Biography

Manar Ahmed Abdel Rahman is currently working as Faculty of Medicine at Mansoura University, Egypt. She received a Doctoral Degree (PhD) in Pathology from Mansoura University, Egypt in the 2016, followed by M.Sc. from the same university.

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