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Thesis Title	**Expression of P53, KRAS, c-MYC, Her-2/neu genes and microRNAs 21, 34a, 92 & 98 in cancerous and non-cancerous bronchial wash and pleural aspirate**			
Year	**2015**			
Abstract	**Abstract Background: Lung cancer is the leading cause of death from cancer in men all over the world. Most of newly diagnosed cases were in advanced stage and beyond radical treatment due to late appearance of worrying symptoms and absence of effective screening method for high risk groups. Nowadays, depending on recent advances in molecular studies researches are directed toward finding molecular markers for diagnostic, therapeutic and prognostic purposes. Aim of study: To investigate the possibility of using expression of P53, KRAS, Her-2/neu, c-MYC and microRNAs 21, 34a, 92, and 98 as a molecular biomarkers for detection of lung cancer in samples of bronchial wash and pleural fluid. Material and Methods: A prospective case control study on a total of 120 samples, sixty bronchial washes and sixty pleural effusions. The samples were taken from patients recruited at the Thoracic Surgical Unit in the Specialized Surgery Hospital/ Medical City during the period from March 2012 to April 2014. The work was performed in the Department of pathology and forensic Medicine, Baghdad college of Medicine. The specimens were thirty bronchial wash and thirty pleural fluid samples positive for lung cancer cells by cytopathology, and similar number of negative samples. Studied genes were amplified using qRT-Realtime PCR. Housekeeping genes for normalization of mRNAs was GAPDH and RNU-48 for microRNAs. Expression was calculated using equation; Expression = ($2^{-\Delta\Delta Ct}$). Results: Results of Ct values for each marker were obtained from Max Pro 5000 Agilent Technology PCR software and raw and standardized Ct values were analysed using SPSS-22 software. The mean, standard deviation, *t*-test, ANOVA test and LSD (least significant difference) were obtained before and after normalization. A statistically**			

	significant differences in the expressions of p53, KRAS, c-MYC, Her-2/neu and microRNAs, 21, 34a, 92, & 98 genes were found between positive and negative (control) samples with a significant *p*-values of <0.05. Conclusion: According to this study a conclusion could be reached; the study of expression profiles of mRNAs of P53, KRAS, c-MYC, Her-2/neu and microRNAs 21, 34a, 92 and 98 genes can be used as a biomarker in the detection of lung cancer, differentiating subtypes, and screening of high risk groups.