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Effectiveness of sputum cytology using ThinPrep method for evaluation of lung cancer

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Sputum cytology is a non-invasive test for evaluating lung cancer. But, its sensitivity is yet lower than other tests. ThinPrep (TP) is an automated cytopreparatory method that has mucolytic and hemolysing effects. We compared 955 sputum specimens that were prepared by both TP and conventional preparation (CP). The nuclear details were more preserved on the TP slides, while the obscuring materials were more eliminated on the TP slides as compared with the CP. The cytologic rates of TP were 2.7% unsatisfactory, 4.7% normal, 81.0% benign, 2.4%suspicious, and 9.1% malignancy. The rates of CP were 7.9% unsatisfactory, 1.6% normal, 84.8% benign, 1.8% suspicious, and 4.0% malignancy. The false negative rates, relative to the histologic data for 352 cases which the tissue diagnosis was available, were 49.6% (TP) and 69.4% (CP). Sputum cytology using the TP method improves the diagnostic accuracy for evaluating lung cancer by reducing the unsatisfactory and false-negative rates.