

EGFR and K-ras mutations in cytologic samples from EBUS- TBNA in NSCLC patients.

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EGFR mutations in patients with non small cell lung cancer (NSCLC) have been associated with response to anti-EGFR therapy, whereas k-ras mutations seem to indicate resistance to treatment. The paucity of biologic samples often hinders histologic diagnosis and cytologic material could be a valid alternative. We evaluated the reliability of cytologically determined EGFR and k-ras mutations against histologic samples.

Sixty NSCLC patients were prospectively analyzed. Cytologic specimens from bronchoscopy were fixed and stained. Non-tumour cells were macroscopically removed and EGFR and k-ras mutation status was determined. For 26 patients, results obtained from cytologic smears were compared to those from histologic specimens and/or cell blocks. Both mutations were only detected in adenocarcinomas. Specifically, 7 (14%) and 13 (25%) cases of adenocarcinomas showed EGFR and k-ras mutations, respectively. EGFR mutations comprised 4 exon 19 deletions, 2 exon 21 and 1 exon 18 point mutations, whereas k-ras mutations were all on codon 12. The results from cytologic and histologic samples were superimposable. In a small tumour subgroup, mutations were detected in as few as 20 cells.

EGFR and k-ras analyses performed in cytologic specimens were technically feasible, giving reliable results and providing a potentially valid diagnostic alternative to histologic evaluation.