Acta Clin Belg. 2014 Apr;69(2):92-7. doi: 10.1179/0001551214Z.00000000029.
Epub 2014 Mar 13.

Routine implementation of EGFR mutation testing in clinical practice in Flanders: 'HERMES' project.

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Abstract

Epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor (TKI) is the recommended first-line treatment in metastatic EGFR-mutation-positive non-small cell lung cancer (NSCLC) patients. Such a personalized treatment requires fast EGFR mutation testing. This study was performed to determine the turn around time (TAT) for EGFR mutation testing on tumour samples of NSCLC in the clinical care in the region of Antwerp (Belgium). The secondary aim was to determine the frequency of EGFR mutations in this Flemish population. Tumour tissue was prospectively obtained from lung cancer patients in participating hospitals and sent from the local pathology laboratory (lab) to two central laboratories (labs) where EGFR-mutation analysis was performed. Results were returned from the central labs to the clinicians and the local pathology lab. TAT was defined as the interval between the request from the oncologist and the result obtained by the oncologist. One hundred and seven specimens were analysed. The clinician got the result from the local lab in a median time of 10 days (3-37 days) and from the central lab in 9 days (3-29 days). We detected seven mutations (7%) in this study population, all occurring in tumours with an adenocarcinoma histology, four (57%) in men and five (71%) in (ex-)smokers. There were six exon 19 deletions and one L858R mutation. It is possible to implement EGFR-mutation testing with timely reporting of the EGFR-mutation status. EGFR-mutation occurs in 7% of Flemish patients with NSCLC. Patients with advanced non-squamous NSCLC should be tested for EGFR mutation regardless of their gender and smoking history.