The National Lung Cancer Audit (NLCA) Spotlight on molecular testing, 2019

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NICE recommend that all patients with advanced non-small cell lung cancer (NSCLC) and good performance status have molecular testing at diagnosis to guide systemic therapy. This spotlight audit is the first national study investigating the efficacy and outcomes of molecular testing in patients with advanced NSCLC in England.

In collaboration with Public Health England, a dedicated portal was designed allowing hospitals in England to provide information on patients with stage 3B/4 NSCLC, PS0-2, diagnosed between June and December 2017. The portal for data collection was open from October 2018 to January 2019.

Of the 142 invited hospitals in England, 60 took part in this spotlight audit. 1157 individual patient records were uploaded on to the portal. 512 (44%) patients were female, 353 (31%) were under the age of 65 and 758 patients (66%) had adenocarcinoma. 11.5% of patients required second biopsies to obtain molecular results. In a multivariate analysis, patients undergoing pleural procedures as an initial investigation were twice as likely to require a second procedure for molecular analysis as patients undergoing endobronchial ultrasound.

In patients with adenocarcinoma, 83% of patients successfully underwent molecular testing for EGFR, ALK and PD-L1. The median turnaround time from tissue acquisition to EGFR result was 18 calendar days, ALK translocation was 17 days and PD-L1 status was 17 days. 75% of patients with a sensitising EGFR mutation and 58% of patients with an ALK positive test received a first-line tyrosine-kinase inhibitor (TKI).

This is the first national study of molecular testing for patients in England with advanced NSCLC. It demonstrates that routine molecular testing in England is reliably in place, but improvements must be made in timeliness of results and proportion of patients receiving targeted first-line therapies. In this study, samples acquired by pleural procedures were less suitable for molecular testing.