LINKING REGIONAL ADMINISTRATIVE HEALTHCARE DATA WITH THE PATHOLOGY REGISTRY OF THE UNIVERSITY HOSPITAL OF SIENA (ITALY) TO DESCRIBE TREATMENT PATTERNS OF PATIENTS WITH NON-SMALL-CELL LUNG CANCER

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Background: During the last decade, treatment guidelines for non-small cell lung cancer (NSCLC) have rapidly changed mainly due to the introduction of new drugs, such as target- and immunotherapies, for patients with advanced stage disease. The aim of this study was to describe trends and patterns of treatment in patients diagnosed with NSCLC during the last decade at the University Hospital of Siena (UHS).

Methods: A descriptive, retrospective cohort study was performed. Adult subjects with NSCLC diagnosis recorded in the electronic pathology registry database (PR) of UHS between January 2009and June 2017were identified through SNOMED codes and free text keywords. Using the regional anonymized identifier code, PR data of NSCLC patients were linked to the administrative healthcare database (AHD) of Tuscany. The first record of either NSCLC in PR or lung cancer in hospital discharge records (ICD9CM 162*) was the index date. In each year of the study period, demographic characteristics, pharmacotherapy, and survival were observed in patients who did undergo lung surgery (SUR) and those who did not (NO-SUR), respectively.

Results: A total of 2003NSCLC patients were identified. Mean age was 69years. The percentage of women rose from 25to 38% (p=0.02) during the study period. NO-SUR were the 57.1% of the study cohort (n=1144). The latter subpopulation was divided in elderly, aged ≥70 years (n=587), and young patients, aged 18-69years (557). In the 6months following the index date, the percentage of subjects who received both immunotherapy and target therapy was higher among young patients, 5.9% vs 1.7% and 13.1% vs 11.1%, respectively. From 2015to 2017the percentage of subjects receiving immunotherapy increased from 2.8% to 28.2% in young patients (p<0.001) and from 1.4% to 6.9% in elderly patients. Among patients NO-SUR, the use of tyrosine kinase inhibitors erlotinib and gefinitib dropped from 11% in 2009to 5.1% in 2017and from 5.1% in 2012to 1% in 2017, respectively, while percentage of patients treated with afatinib rose from 0.7% in 2015to 3.1% in 2017. Among patients recruited up to the end of 2013, the average 50 months survival rate was 60.3% for SUR, with only slight differences across years, while for NO-SUR patients it was 11% in 2009and 21% in 2013.

Conclusions: This study demonstrate the feasibility of linking PR and AHD and provided evidence on trends and patterns of treatments in patients diagnosed with NSCLC at UHS during the last decade. Although the descriptive nature of this study does not allow to assess whether the observed increase in survival in NO-SUR patients was actually associated to the increasing use of novel pharmacotherapies, this work set the stage for for future analytic, pharmacoepidemiological studies based on the re-use of the information recorded in these two data sources.