Treatment patterns and overall survival in patients with BRAF-mutated metastatic non-small cell lung cancer

R.K. Goyal1, A. Kron2, J. Wolf3, J. Mazieres4, C. Chouaid5, K.L. Davis5, M. Penninquet6, S. Knoll1
1Health Economics, RTI Health Solutions, Research Triangle Park, NC, USA, 2Center for Integrated Oncology Cologne Bonn, University Hospital Cologne, Kerpener, Germany, 3Thoracic Oncology, Hospital Larrey, Toulouse, France, 4Chest Department, Centre Hospitalier Intercommunal Cetel, Créteil, France, 5Health Economics, RTI Health Solutions, Research Triangle Park, NC, USA, 6Life Sciences, Navigant, London, UK, 7Global Oncology Value and Access (GVA), Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

Background: BRAF mutations are observed in 2% – 4% of all non-small cell lung cancer (NSCLC) patients, but few targeted therapies are available, with limited practice level data on utilization and outcomes. This study therefore aims to document, from a “real-world” perspective, treatment patterns, testing characteristics, and overall survival (OS) in patients with BRAF-positive (BRAF+) metastatic NSCLC (mNSCLC).

Methods: This was a multinational, retrospective medical record review of patients with BRAF+ mNSCLC (diagnosed 2005-2016) in EU, Canada and S Korea. Patients were ≥18 years of age at mNSCLC diagnosis (“index”) and had ≥12 months of post-index follow-up time, except for patients who died sooner. Study measures included baseline patient characteristics, timing of mutational testing, systemic therapies for mNSCLC, and OS. Kaplan-Meier analyses were conducted to descriptively analyze OS dependent on treatment with a BRAF inhibitor (BRAFi).

Results: Of all patients (n = 76; median age = 64 years), 24% had been tested for BRAF mutation at index; 61% had been tested before initiating the first line of therapy (LOT-1). Chemotherapy was the most common first (76%), second (46%), and third (38%) LOT. BRAFi (+/- a MEK inhibitor) was received by 53% of all patients initiating a systemic therapy (n = 66) in any LOT. Median OS from index was 19.4 months (95% CI = 13.3-22.8) in all patients, 23.4 months (95% CI = 18.5-28.4) in patients treated with BRAFi, and 11.8 months (95% CI = 4.5-20.0) in patients not treated with BRAFi, in any LOT. Three-year OS rates from LOT initiation are summarized in the table.

Conclusions: The majority of confirmed BRAF+ mNSCLC patients were tested for BRAF mutation before initiation of LOT-1. Chemotherapy was the predominant front-line therapy and BRAFi was utilized mainly in second and later LOTs. Median OS was numerically higher in patients treated with BRAFi versus patients not treated with BRAFi in any LOT.

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Table: 1489P OS rate from start of LOTs

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<th>LOT-1</th>
<th>LOT-2</th>
<th>LOT-3</th>
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<td>BRAFi (n = 34)</td>
<td>33.9% (0.09)</td>
<td>37.5% (0.10)</td>
<td>49.5% (0.13)</td>
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<td>No BRAFi (n = 28)</td>
<td>17.1% (0.09)</td>
<td>22.9% (0.12)</td>
<td>9.0% (0.09)</td>
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