

1450P Osimertinib treatment for patients with EGFR exon 20 insertion positive non-small cell lung cancer

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Background: Epidermal growth factor receptor (EGFR) exon 20 insertions are identified in 4–10% of all EGFR mutations in non-small cell lung cancer (NSCLC) and are generally associated with primary resistance to first and second generation EGFR tyrosine kinase inhibitors (TKIs). In vitro and preclinical animal studies have shown that osimertinib exerts antitumor activity in EGFR exon 20 insertion positive NSCLC cell lines. We report on a cohort of advanced stage NSCLC patients, harboring an EGFR exon 20 insertion, that was treated with osimertinib.

Methods: 17 patients with advanced NSCLC harboring an EGFR exon 20 insertion were treated with osimertinib 80 mg once daily, in four institutions in the Netherlands. Data were obtained retrospectively. EGFR mutation status was assessed by next-generation sequencing. Progression free survival (PFS), disease control rate (DCR) and objective response rate (ORR) were assessed using RECIST v1.1.

Results: Median age was 63 years (range 35–81), 71% was female and median number of prior systemic treatments was 1 (range 0–3). Ten patients (59%) received prior platinum-based chemotherapy, and 2 patients afatinib, one patient experienced stable disease for 11 months, the other patient showed progression. Among all patients treated with osimertinib, we observed 1 partial response, 13 patients with stable diseases and 3 with progressive disease as best response (ORR 6%). Two patients were still on osimertinib treatment at the cut-off date. Median PFS was 3.7 months (95% CI: 2.3–5.4 months). Six of seventeen patients (35%) achieved DCR at five months.

Table: 1450P

Patient	Number of prior treatments	Prior platinum based chemotherapy	Prior EGFR TKI	Best RECIST response	PFS (months)
1	2	Yes	no	SD	4.0
2	1	Yes	no	SD	1.6
3	2	Yes	no	PR	0.7
4	1	Yes	no	PR	0.7
5	2	Yes	no	SD	3.8
6	1	Yes	no	SD	3.0
7	3	Yes	no	SD	9.3
8	1	Yes	no	SD	17.0
9	1	No	no	SD	3.7
10	1	Yes	no	SD	17.2
11	0	No	no	PR	3.1
12	0	No	no	SD	2.6
13	0	No	no	SD	6.5
14	3	Yes	afatinib (SD)	SD	7.9
15	1	No	afatinib (PD)	PD	1.7
16	0	no	no	SD	8.3
17	0	no	no	SD	1.4

EGFR, epidermal growth factor receptor; RECIST: Response Evaluation Criteria in Solid Tumors; PR, partial response; SD, stable disease; PD, progressive disease; PFS, progression free survival

Conclusions: Osimertinib has limited antitumor activity in patients with EGFR exon 20 mutated NSCLC, with an ORR of 6%. A subset of patients (35%) seems to derive benefit from osimertinib treatment with durable disease control for more than five months.

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