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LUNG CANCER AND IMMUNOTHERAPY EXPERIENCE FROM SECOND LINE AND BEYOND

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Introduction • Lung cancer represents the leading cause of cancer death worldwide. At diagnosis, the majority of patients present an advanced or metastatic disease. Despite the improvement in diagnostic and therapeutic strategies, lung cancer prognosis remains poor with less than 15% of patients surviving beyond 5 years. Advanced non-small-cell lung cancer (NSCLC) has been always treated by platinum-based regimens with various toxicity profiles. However, with the discovery of the PD-1/PD-L1 pathway, novel checkpoint inhibitors emerged as promising agents for treating patients with advanced disease. When evaluated in clinical trials, they showed promising results and durable responses in a subset of patients treated in the first and second lines or beyond. The aim of this study is to assess the efficacy and responses of these agents in real-life practice when used in second line or after.

Material and Methods • Patients with advanced (stage III and IV) NSCLC treated with immunotherapy between June 2015 and August 2018 were included. Patients should have received anti-PD-1 or anti-PD-L1 agent in the second, third of fourth line after failure of a prior first line regimen. Each patient should have received a minimum of 3 cycles of treatment and evaluation thereafter.

Results • A total of 85 patients were included. The median age of our population was 65 years, and the majority were men (sex ratio = 2.3:1). Around 95% of patients were smokers. Adenocarcinoma was the most frequent histologic subtype in 59.1% of cases, followed by squamous cell carcinoma in 35.5% of cases. At presentation, 81.7% of patients had metastatic deposits mainly in the bone and adrenals in 34.4% and 28% respectively. PD-L1 expression ranged from 0 to 100% with a median value of 45%. PD-L1 expression was ≥ 50%, between 1 and 50%, and less than 1% in 43%, 40% and 17% of patients respectively. Around half of patients (54%) underwent radiotherapy, with a curative intent in 42.5% and palliative intent in 57.5%. Checkpoint inhibitors were used in second line in 74.7%, third line in 21.8% and fourth line in 3.5%, and were balanced between Pembrolizumab and Nivolumab. The majority of patients progressed despite immunotherapy treatment in 41% of cases, presented a stability of the disease, partial response and complete response in 29.7%, 25.6% and 2.7%. The median progression-free survival (PFS) was 4.1 months (1-20.7). Immune-related adverse events were present in around 7% of patients, and were mainly grade 2-3 managed with steroids and supportive care, with hormone replacement therapy in the case of thyroiditis.

Conclusion • Checkpoint inhibitors represent a new hope for patients with advanced lung cancer who have few available effective treatments beyond first or second line.

Keywords: lung cancer; immunotherapy; second line

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