

# Evaluation of the Efficacy of Camrelizumab Combined with Chemotherapy in the Treatment of Lung Cancer

Haiying Fei

<sup>1</sup>School of Clinical Medicine, Chengdu Medical College, Chengdu 610500, Sichuan, China.

<sup>2</sup>Department of Pulmonary and Critical Care Medicine, The First Affiliated Hospital of Chengdu Medical College, Chengdu 610500, Sichuan, China.

<sup>3</sup>Key Laboratory of Geriatric Respiratory Diseases of Sichuan Higher Education Institutes, Chengdu 610500, Sichuan, China.

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**\*Corresponding author:** Haiying Fei, School of Clinical Medicine, Chengdu Medical College, Chengdu 610500, Sichuan, China; Department of Pulmonary and Critical Care Medicine, The First Affiliated Hospital of Chengdu Medical College, Chengdu 610500, Sichuan, China; Key Laboratory of Geriatric Respiratory Diseases of Sichuan Higher Education Institutes, Chengdu 610500, Sichuan, China.

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## Abstract

**Objective:** To explore the efficacy of camrelizumab combined with chemotherapy in the treatment of lung cancer. **Methods:** A total of 62 lung cancer patients admitted to our hospital from January 2021 to December 2025 who met the research criteria were selected. Using a randomized controlled method, the patients were divided into a study group (n = 31) and a control group (n = 31). The control group received a chemotherapy regimen, while the study group received a camrelizumab combined with a chemotherapy regimen. The clinical effects were compared. **Results:** The clinical efficacy of the study group was significantly better than that of the control group (87.09% > 64.52%), with  $P < 0.05$ , indicating a statistically significant difference. There was no significant difference in the incidence of adverse reactions between the two groups. Relatively speaking, the incidence of adverse reactions in the study group was slightly higher than that in the control group (54.84% > 41.94%), but the difference between the two sets of data was small, with  $P > 0.05$ , proving that the incidence of adverse reactions in the study group was controllable and would not significantly increase safety risks, and the difference was not statistically significant. **Conclusion:** In the treatment of lung cancer, the application of a camrelizumab combined with chemotherapy regimen can improve the treatment effect to a certain extent, enhance the quality of life of patients during the treatment stage as much as possible, ensure patients' treatment experience and acceptance of various treatment measures, guarantee the smooth implementation of all treatment measures, and effectively improve the safety of patients during the treatment process.

## Keywords

Camrelizumab; Chemotherapy; Combined therapy; Lung cancer

Lung cancer is currently one of the cancers with the highest global incidence and mortality rates. In traditional treatment regimens, chemotherapy can indeed help patients control the progression of lung cancer and is beneficial for improving patients' survival rates. With the continuous advancement of global medical standards, in the field of lung cancer treatment and disease control, immunotherapy drugs have come into the sight of lung cancer patients. Camrelizumab is an important representative among them. To further improve the physical health of patients, it is necessary to study the clinical efficacy of camrelizumab combined with chemotherapy in the treatment and control of lung cancer on the premise of ensuring safety. This paper studies the efficacy of camrelizumab combined with chemotherapy in the treatment of lung cancer, and the specific content is reported as follows.

## 1 Materials and Methods

### 1.1 Materials

A total of 62 lung cancer patients admitted to our hospital were selected and divided into a control group (n = 31) and a study group (n = 31). In the study group, there were 17 male and 14 female patients, with an average age of (57.62 ± 8.83) years. In the control group, there were 16 male and 15 female patients, with an average age of (56.82 ± 8.69) years. All patients were aged between 46 and 73 years, and none had major historical diseases. Before the start of the study, specially assigned personnel were arranged to explain the advantages and disadvantages of different treatment regimens to the patients and their families. After the patients and their families had a full understanding of the research content and gave positive responses, the patients were included in the study.

#### 1.1.1 Inclusion criteria

- (1) Diagnosed with lung cancer through examination and fully meeting the diagnostic criteria for lung cancer.
- (2) Aged ≥ 40 years.
- (3) Signed an informed consent form.
- (4) Patients have normal communication abilities and can actively cooperate during the implementation of the treatment regimen to ensure the smooth implementation of treatment measures. At the same time, patients need to promptly provide feedback on their physical feelings to ensure effective communication between nurses and patients.

#### 1.1.2 Exclusion criteria

- (1) Patients actively refuse to participate in the study.
- (2) Have other major historical diseases or dysfunction of important organs such as the heart, liver, and kidneys.
- (3) Have an unstable mental state or have mental illnesses.
- (4) Patients have extremely low cooperation or incomplete clinical data.

### 1.2 Methods

To ensure the reference value of the research results, it is necessary to ensure the uniqueness of variables in the study, with the variable being the treatment regimen. The drugs used and the specific chemotherapy methods should be kept consistent. The same type of drugs produced by the same enterprise should be selected to reduce the impact of other factors on the research results.

The control group received a pure chemotherapy regimen. For non-small cell lung cancer, the drugs used were pemetrexed at a dose of 500 mg/m<sup>2</sup>, plus cisplatin at 75 mg/m<sup>2</sup>, administered over 3 days via intravenous drip. For small cell lung cancer, etoposide at 100 mg/m<sup>2</sup> per day was administered via intravenous drip for 3 days, and the dosage and administration method of cisplatin were the same as those for non-small cell lung cancer. The total course of treatment was 12 weeks [1]. The study group received a camrelizumab combined with a chemotherapy regimen. Camrelizumab at 200 mg was administered via a single intravenous drip on the first day, and etoposide combined with cisplatin was used for treatment. The total course of treatment was also 12 weeks.

### 1.3 Observation Indicators

**(1) Clinical efficacy:** It includes four states: complete remission, partial remission, stability, and progression. The control effect of the clinical treatment on the patient's disease was evaluated strictly in accordance with the Response Evaluation Criteria in Solid Tumors.

Total response rate = (Number of patients with complete remission + Number of patients with partial remission) ÷ Total number of patients in the corresponding group × 100%

**(2) Incidence of adverse reactions:** It includes five common adverse reactions: leukopenia, liver function damage, kidney function damage, diarrhea, and nausea and vomiting.

Incidence of adverse reactions = (Number of patients with leukopenia + Number of patients with liver function damage + Number of patients with kidney function damage + Number of patients with diarrhea + Number of patients with nausea and vomiting) ÷ Total number of patients in the corresponding group × 100%

## 1.4 Statistical Methods

SPSS 22.0 software was used for processing. The t-test and chi-square ( $\chi^2$ ) test were used. A P-value < 0.05 indicated a statistically significant difference.

## 2. Results

### 2.1 Comparison of Clinical Efficacy between Patients

According to Table 1, the clinical efficacy of the study group was significantly better than that of the control group (87.09% > 64.52%), with  $P < 0.05$ .

**Table 1. Comparison of Clinical Efficacy between the Two Groups of Patients [n (%)]**

Group	Number of Cases	Complete Remission	Partial Remission	Stability	Progression	Total Response Rate
Control group	31	6	14	8	3	20 (64.52)
Study group	31	9	18	2	2	27 (87.09)
<i>t</i>	--	--	--	--	--	12.863
<i>P</i>	--	--	--	--	--	< 0.05

### 2.2 Comparison of the Incidence of Adverse Reactions between Patients

According to Table 2, there was no significant difference in the incidence of adverse reactions between the two groups. Relatively speaking, the incidence of adverse reactions in the study group was slightly higher than that in the control group (54.84% > 41.94%), but the difference between the two sets of data was small, proving that the incidence of adverse reactions in the study group was controllable and would not significantly increase safety risks, with  $P > 0.05$ .

**Table 2. Comparison of the Incidence of Adverse Reactions between the Two Groups of Patients [n (%)]**

Group	Number of Cases	Leukopenia	Liver Function Damage	Kidney Function Damage	Diarrhea	Nausea and Vomiting	Incidence Rate
Control Group	31	3	2	1	3	4	13 (41.94)
Study Group	31	4	3	2	3	5	17 (54.84)
<i>t</i>	--	--	--	--	--	--	1.782
<i>P</i>	--	--	--	--	--	--	> 0.05

## 3. Discussion

In the field of cancer treatment, chemotherapy can help patients effectively control their disease. However, during the actual treatment process, it often damages normal tissue cells while killing tumor cells, leading to many adverse reactions in patients' bodies, which, to a certain extent, affects patients' acceptance of chemotherapy regimens. Some patients may experience a decline in efficacy due to drug resistance if they receive long-term chemotherapy [2]. At the same time, it is difficult to guarantee the quality of life of patients during chemotherapy, and their disease treatment and control experience are relatively poor. To continuously improve the clinical treatment efficacy of lung cancer patients, immunotherapy has emerged. In a large number of clinical practices and related studies, immunotherapy can significantly improve patients' physical conditions by mobilizing the body's immune system to attack tumor cells. Moreover, due to its strong targeting and specificity, the possible negative impact on patients' bodies is relatively controllable [3]. Considering the physical health of lung cancer patients, in research and clinical practice, an attempt has been made to use a combination of immunotherapy and chemotherapy drugs, and it has been verified that this combination can produce a good synergistic effect [4]. Chemotherapy can effectively kill tumor cells, and

camrelizumab can fully mobilize the function of the patient's body's immune system, appropriately control the negative impact of chemotherapy on the normal tissue cells of the patient's body, and continuously improve the patient's physical condition with the help of the body's immune function, thereby achieving the goal of improving clinical efficacy [5].

Based on clinical experience and research data, chemotherapy is widely used in cancer treatment and disease control and can indeed achieve certain results, helping patients secure more survival time. However, during actual chemotherapy, due to individual differences among patients, the final results will also show significant differences. Individual differences such as the severity of the patient's disease, physical condition, drug absorption ability, and tolerance. In clinical practice, some lung cancer patients do not achieve the expected results after chemotherapy [6]. At present, in the field of medical research, to ensure that the condition of as many lung cancer patients as possible can be controlled to a certain extent, the types of treatment drugs are continuously increasing with the development of medical technology. Based on the treatment regimens of the two groups of patients, the actual application of chemotherapy drugs is analyzed. Cisplatin is a commonly used chemotherapy drug, and its efficacy has been effectively verified in the clinical treatment of various malignant tumors, with a prominent anti-tumor effect. This drug mainly affects DNA replication and transcription by binding to DNA bases in the nucleus of tumor cells to damage DNA [7]. The anti-tumor function of pemetrexed is mainly to inhibit cell replication and growth by disrupting the folate-dependent metabolic processes within cells [7]. Considering that chemotherapy may cause damage to normal cells of patients, the dosage of chemotherapy drugs often needs to be controlled during treatment, making it relatively difficult for chemotherapy to achieve ideal results. Camrelizumab can effectively activate the function of lymphoid T cells and secrete natural killer cells. The combination can give full play to the drug synergistic effect, improve the patient's body immunity, and thus better ensure the patient's safety and actual experience during the treatment process [8].

In conclusion, camrelizumab combined with chemotherapy can help patients improve their quality of life, and the safety during disease treatment and control can basically be guaranteed, which is worthy of reasonable clinical application. To further improve the clinical efficacy, close supervision of the disease treatment and control process is required to effectively enhance the patient's clinical experience.

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