Experience and Comprehension from the Treatment of NSCLC with Kanglaite Injection

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Lung cancer continues to be the leading cause of cancer related death for world. About 160,000 deaths per year and an overall 5-year relative survival rate for lung cancer is 15%.

Approximately 75% to 80% of cases are of the non-small-cell histology, and the majority of patients present with either locally advanced disease (stage III) or metastatic disease (stage IV). Importantly, patients who undergo curative surgical resection for apparent localized disease have survival rates ranging between 50% and 80%, implying the need for better systemic treatment to cure occult micrometastatic disease.

Therefore, the majority of patients either presents with advanced disease requiring chemotherapy or requires chemotherapy at the time of relapse after surgical resection. For some time, the treatment of non-small-cell lung cancer (NSCLC) with cytotoxic chemotherapy remained controversial. The 1990 heralded the arrival of novel agents with significant activity against NSCLC and new enthusiasm for treatment of advanced NSCLC with chemotherapy. These novel agents included the taxanes (paclitaxel and docetaxel), a new vinca-alkaloid (vinorelbine), a novel deoxycytidine analog (gemcitabine), and the topoisomerase I inhibitors (irinotecan and topotecan). The active agents of chemotherapy for lung cancer are cisplatin, mitomycin, ifosfamide, etoposide vinblastine, topotecan. Response rates to single agents were approximately 30% and, while combination chemotherapy suggested improvements in response rates the impact of chemotherapy on patient survival was unclear.

Since that time, however, a number of promising new drugs have been incorporated into clinical trials. Kanglaite (KLT) is a novel type anticancer injection prepared by extracting its efficacious anticancer component from a Chinese crude drug/coix seed (Semen Coicis) with the world advanced technology and formulated into a lipid emulsion for intravenous as well as intra-arterial injection.

Represents results of many research, in these, has been verified good therapeutically effect and safety KLN in the patients with NSCLC permit to for care out clinical studies in two Russian's oncological centers.

The clinical study conducted by Russian Research center of Radiology was performed to evaluate the efficacy and toxicity of the novel agent KLT in patients with stages IIIB and IV non-small-cell lung cancer.

12 chemotherapy-naive patients (3 stage IIIB and 9 stage IV), ECOG performance status <2
and measurable disease were required to enter the study. All the patients received a following regimen: KLT 200 ml intravenous (i.v.) infusion 1-21 days. Cycle was repeated from 28 to 42 day. The median age was 58.5 years; Histology was as follows: squamous cell in 8 (66.6%), and adenocarcinoma in 4 (33.3%).

Following table shows distribution all patients depending on localization of primary tumor and metastasis in other organs.

<table>
<thead>
<tr>
<th>Primary tumor with metastasis in mediastinum</th>
<th>8 (66.6%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>4 (33.3%)</td>
</tr>
<tr>
<td>Soft tissue</td>
<td>2 (16.6%)</td>
</tr>
<tr>
<td>Supraclavicular lymph nodes</td>
<td>3 (25%)</td>
</tr>
<tr>
<td>Bones</td>
<td>3 (25%)</td>
</tr>
<tr>
<td>Liver</td>
<td>1 (8.3%)</td>
</tr>
</tbody>
</table>

Performance status by ECOG was 4 patients - 2, 8 patients -1. Symptoms such as: cough - 6(50%) patients, dyspnea - 8(66.6%), hoarse voice -2(16.6%), pain -4(33.3%), weakness and anorexia - 6(50%).

11 pts are evaluable for response (1 patient was died at time of interval between cycles from progression disease) and all patients are evaluable for toxicity. Response < 50% was recorded in 2 of 11 patients (18%) - (in both cases decries metastasis in lung). No complete response was observed. Stable disease in 2 patients (16.6%), and progressive disease in 7 patients (66.6%).

In this study we also discovered the following findings: Symptoms such as cough were improved after the treatment with KLT in 2 pts, dispnea - 4, bone's pain- lpt.

Toxicity included fever to 38° in 2 pts, rush - 1 pts, decrease hemoglobin -3 pts. No leukopenia and neutropenia was observed. This study concluded, 5 patients with good performance status who progressed after KLT received chemotherapy cisplatin + gemcitabin. After 2 cycles of treatment 2 patients demonstrated partial responses, 2 - stable disease and 1 pt - progression disease.

Only one patient with effect < 50% after KLT continued this treatment for 2 cycles with good results.

**Conclusion:** The new agent shows activity in advanced non-small-cell lung cancer. KLT has a good therapeutical effect as well as improved patient's quality of life. Absence of typical toxicity for cytotoxic agents permits to recommend standard chemotherapy in these patients and receive effect in the next phase.
Probably this suggests that KLT promote reverse the Multidrug Resistance of Tumor Cells and evidently can raise the clinical efficacy of combined KLT with chemotherapy.