Analysis on the efficacy of KLT combined with chemotherapy in the treatment of advanced malignancy

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[Abstract] Objective To observe the efficacy of KLT combined with chemotherapy in the treatment of malignancy. Methods 80 cases of advanced cancer patients were randomly divided into KLT combined with chemotherapy group and simple chemotherapy group. Results ①The response rates in combination group and chemotherapy group were 47.5% and 20% respectively with significant difference (P<0.01), the CR rate in former group was also higher than that in latter group. ②Cases of KPS scores improvement and stability in combination group were higher than those in simple chemotherapy group (P<0.01). ③Patients in combination group got significant relief to their cancerous pain and the incidences of gastrointestinal tract reaction and bone marrow depression were lower than those in control group. Conclusion It was safe and reliable for KLT to be used in combination with chemotherapy in the treatment of advanced malignancy with significant efficacy, and worthy of being used in clinical treatment.

[Key words] KLT; Tumor; Combined chemotherapy

Most cancer patients had progressed into late stage when they got final diagnosis, they were not suitable for surgery and radiotherapy, and chemotherapy became the major treatment method. Although chemotherapy had relatively good remission rate, it could also damage the normal tissue cells while killing cancer cells. To improve the therapeutic response rate and life quality of advanced patients, from May 1997 to May 2001, our department applied KLT combined with chemotherapy in the treatment of 40 cases with advanced cancer and compared with the other 40 cases treated with simple chemotherapy. The results of treatment are reported as follows.

1 Materials and methods

1.1 Clinical data
From May 1997 to May 2001, 80 cases of advanced cancer patients were treated, observed and analyzable, they were all confirmed by pathological and/or cytological diagnosis with measurable lesions, average KPS scores 45 points, no contraindication to chemotherapy, and expectant survival time >3months. They were randomly divided into 2 groups: combination group (KLT combined with FM/CE regimen) and control group (simple FM/CE regimen). The conditions in the two groups were basically similar, for details. See Tab.1.

<table>
<thead>
<tr>
<th>Item</th>
<th>KLT+ FM/CE</th>
<th>FM/CE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Gender (male/female)</td>
<td>34/6</td>
<td>36/4</td>
</tr>
<tr>
<td>Average age (year old)</td>
<td>60 (40-71)</td>
<td>62 (39-72)</td>
</tr>
<tr>
<td>KPS score</td>
<td>40-70</td>
<td>40-70</td>
</tr>
</tbody>
</table>
Type (case)

- **Stomach cancer**: 22 (recurrence after surgery 3 cases) 20 (recurrence after surgery 2 cases)
- **Esophageal cancer**: 4 (recurrence after radiotherapy 1 case) 6 (recurrence after radiotherapy 2 cases)
- **Liver cancer**: 6
- **Rectal cancer**: 1
- **Lung cancer**: 7 (complicated with pleural effusion 1 case) 8 (complicated with pleural effusion 2 cases)

1.2 Treatment methods

FM regimen was used in treating digestive tract cancer: 5-Fu 500 mg/m², iv drip, d1-5; MMC 6mg/m², iv, d1, d8.

CE regimen was used in treating lung cancer: CBP 300 mg/m², iv drip, d1; Vp-16 100 mg/ m², iv drip, d3-7.

Patients in the two groups were treated with the same combined chemotherapeutic regimens mentioned above. On this basis KLT was added in combination with chemotherapy in combination group with daily dosage of 100-200 ml, i.v drip from d1 to d20. The second treatment cycle should be started after an interval of 8 days. Evaluation should be conducted after more than 2 cycles.

1.3 Criteria for evaluation of efficacy and toxic & adverse reactions

According to the “Evaluation Criteria for Efficacy of Solid Tumor Treatment” issued by WHO, the efficacy was classified into complete response (CR), partial response (PR), no change (NC) and progress of disease (PD), response rate (RR) should be CR+PR. Life quality should be evaluated in accordance with “KPS Scores Standard”, increase by 10 points after treatment as improved, no change as stable, decrease by >10 points as reduced. Evaluation on pain relief was classified into complete relief, partial relief, mild relief and no effect. Adverse reactions should mainly observe hemogram, gastrointestinal symptoms, phlebitis, changes of heart, liver and kidney functions according to WHO criteria, which classified adverse reactions into degree 0-VI.

1.4 Statistical method

x² test.

2 Results

2.1 Changes of tumor size and KPS scores

Combination group (40 cases): Received a total of 96 treatment cycles, obtained CR 5 cases, PR 14 cases, overall RR 47.5%(19/40).

Control group: Completed a total of 87 treatment cycles, obtained CR 2 cases, PR 6 cases, overall RR 20% (8/40).

There was significant difference between the two groups.

The CR rates in the two groups were 2.5% and 5% respectively (see Tab.2).

Tab.2 Comparison of efficacy between the two groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>CR</th>
<th>PR</th>
<th>SD</th>
<th>DN</th>
<th>CR+PR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination</td>
<td>40</td>
<td>5</td>
<td>14</td>
<td>20</td>
<td>1</td>
<td>47.5</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>2</td>
<td>6</td>
<td>26</td>
<td>6</td>
<td>20</td>
</tr>
</tbody>
</table>

x²=6.76  P<0.01
The rates of KPS scores improvement and stability were 87.5% (35 /40) in combination group and 65 % (25 /40) in control group. The rates of reduction in the two groups were 12.5 % (5 /40) and 37.5 % (15 /40) respectively. There was significant difference between the two groups (P<0.01) (see Tab.3).

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Improved and stable (%)</th>
<th>Reduced (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination group</td>
<td>40</td>
<td>87.5% (35 /40)</td>
<td>12.5 %</td>
</tr>
<tr>
<td>Control group</td>
<td>40</td>
<td>65 % (25 /40)</td>
<td>37.5 %</td>
</tr>
</tbody>
</table>

χ²=6.67  P<0.01

2.2 Pain relief
In combination group: Before treatment: 4 cases with degree I pain, 6 cases with degree II pain and 2 cases with degree III pain (needed Pethidine 100 mg/d orally for pain relief). After treatment: complete relief 7 cases, partial relief 3 cases, mild relief 1 case, effective rate 83.3%.
In control group: There were no significant changes before and after treatment, furthermore, 3 new cases with pain appeared along with the progress of disease (degree I :1 case and degree II :2 cases).

2.3 Toxic and adverse reactions
There were mild digestive tract reactions in the two groups, with 32.5% (13/40) in combination group and 42.5% (17/40) in control group. The rate of WBC decline in combination group was 27.5% (11/40), which was significantly lower than that in control group (42.5%, 17/40). The rate of phlebitis in combination group was 30% (12/40) which was higher than that in control group (12.5%, 5/40) without significant difference and all their severity in degree I. No abnormalities in heart, lung and kidney functions were found in the two groups. A few cases had low fever while receiving KLT treatment by intravenous drip. It would relieve spontaneously without special treatment.

3 Discussion
Kanglaite Injection (KLT) is an emulsion prepared by extracting the active components from a Traditional Chinese Medicine "semen coisis" with modern technology by Zhejiang Kanglaite Pharmaceutical Co., Ltd. It is a new anticancer drug with dual functions and broad spectrum. KLT can retard cancer cells in phase G₂-M, inhibit the proliferation of cancer cells and induce them to apoptosis [1]. It can also provide high-energy nutrition and improve immunity of the body [2]. Besides, KLT has functions of relieving cancerous pain and improving life quality of advanced patients.

Results of this study showed that the improvement on efficacy and KPS scores in combination group was significantly higher than that in control group, with significant difference (P<0.01). The completion rate of treatment cycle and the analgesic effect in combination group were also higher than those in control group. While the rates of WBC decline and gastrointestinal reaction in KLT group were lower than those in control group. It indicated that KLT had synergistic effect with chemotherapy and could improve efficacy, enhance the tolerance of patients to chemotherapy and relieve the adverse reactions caused by chemotherapy, which was similar to domestic reports [3,4]. The results also showed that KLT’s efficacy was related with its dosage, and the rate of phlebitis was related to the status (deep or shallow) of chosen veins and the speed of infusion. The symptom of phlebitis was generally mild and could be prevented by administering KLT into subclavian vein or addition of Dexamethasone (5 mg). KLT had no harmful effect on heart, liver & kidney functions. The occasional low fever would relieve
spontaneously without special treatment.

Currently no ideal therapy existed for treating advanced cancer. Most chemotherapies were mainly used as palliative treatment. The adverse reactions that affect patients’ life quality have become one of main reasons for patients to refuse chemotherapy. We applied KLT combined with chemotherapy in treating advanced patients had definite efficacy and less side effects, which indicated that KLT could improve the therapeutic effects of chemotherapy, improve patients’ life quality and significantly reduce the adverse reactions caused by chemotherapy. Therefore, KLT is one of the ideal drugs in the palliative treatment of advanced cancer patients, as an anticancer new drug, it is worthy of being extensively used in clinical treatment.

References