

Clinical Research of Live Cancer Treated by CEF Regimen Combined with Can Yi Capsule

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Abstract: Objective: To explore the clinical effect of CEF regimen combined with Can Yi capsule in the treatment of liver cancer. **Methods:** From January 2014 to December 2020 our hospital received 118 patients with radical resection of liver cancer after radical surgery and they were divided into the observation group (n=59) and the control group (n=59). The observation group was treated with CEF regimen combined with Can Yi capsule, and the control group was treated with CEF alone. The short-term efficacy, NK and T lymphocyte subsets, quality of life and toxicity were compared between the observation group and the control group. **Results:** The ORR was 76.27%, and the DCR was 83.05% in the control group; the ORR was 91.53%, and the DCR was 96.61% in the experimental group, the difference was significant ($P=0.024$, $P=0.015$). After the intervention, the CD3+, CD4+, CD8+, CD4+/CD8+ and NK indexes in the experimental group were better than those in the control group ($P=0.000$, $P=0.000$, $P=0.000$, $P=0.000$, $P=0.000$). In the physiological condition, psychological status, physical condition and sleep condition score, the experimental group was higher than the control group ($P=0.012$, $P=0.014$, $P=0.009$, $P=0.013$). In the joint pain, bone marrow suppression, arrhythmia, nausea and vomiting, alopecia, thrombocytopenia, leukopenia and anemia drug toxicity, the experimental group was lower than the control group ($P>0.05$). **Conclusion:** For liver cancer patients with radical resection of liver cancer, Can Yi capsule combined with CEF program could not only improve the short-term clinical efficacy, and improve immunity, but also could reduce drug toxicity and improve quality of life.

Keywords: Can Yi capsule, CEF, liver cancer, Toxicity, T lymphocyte subsets

Liver cancer is a kind of malignant tumor with high incidence in human. It occurs in human after 40 years old, especially in Hepatitis lesion human. At present, with the improvement of people's living standards, liver cancer shows a trend of youth, so effective treatment is particularly important [1, 2]. Although surgery is the only way to cure early liver cancer, postoperative chemotherapy is indispensable. However, although chemotherapy has the positive effect of killing tumor cells, it will inevitably damage the immune system of the body [3, 4]. Therefore, in order to reduce the influence of chemotherapy drugs on the immune system and its toxic and side effects, 118 patients with liver cancer undergoing radical resection of liver cancer were collected in our department and treated with CEF and Pingxiao capsule combined with CEF alone. The results show that the combined treatment scheme has satisfactory clinical effect. The report is as follows.

1. Materials and Methods

1.1 General Data

118 liver cancer patients who were treated in our hospital from January 2014 to December 2020 were divided into observation group and control group according to different treatment plans, 59 cases in each group. The subjects who were included in the study were treated with CEF and Pingxiao Capsule in combination with CEF alone, all of them were confirmed as liver cancer patients by pathology, all of them were treated after radical resection of liver cancer, and all of them were aware of this study And sign the consent form, which is approved by the ethics committee of our hospital.

Patients with abnormal liver, kidney, heart function and ECG examination, patients receiving radiotherapy and chemotherapy within one month, patients with drug allergy and non cooperation in the study, and patients during lactation and pregnancy are excluded. The age of the observation group was 32-82 years old, with an average age of (52.7 ± 4.8) years; 39 cases occurred on the left side, 20 cases occurred on the right side; 32 cases were treated for the first time, 27 cases recurred; 26 cases were invasive ductal carcinoma, 12 cases were papillary carcinoma, 11 cases were invasive lobular carcinoma, 10 cases were ductal carcinoma in situ; the age of the control group was 33-81 years old, with an average age of (51.9 ± 4.5) years; 35 cases occurred on the left side, 24 cases occurred on the right side; 28 cases were treated for the first time, There were 31 cases of recurrence, 27 cases of invasive ductal carcinoma, 13 cases of papillary carcinoma, 10 cases of invasive lobular carcinoma and 9 cases of ductal carcinoma in situ. The general data of age and lesion type of the two groups were comparable ($P > 0.05$).

1.2 Treatment

The control group was treated with CEF regimen: the first day of intravenous cyclophosphamide (Jiangsu Hengrui medicine) (CTX) 500mg / m² and epirubicin (EPI) (Zhejiang Haizheng medicine) 90mg / m²; the first and eighth days of intravenous 5-fluorouracil (5-FU) (Shanxi Yabao medicine Zhejiang Haizheng medicine) 300mg / m², 21 days as a cycle, four to six weeks in total Period. The treatment plan of the experimental group is CEF combined with Pingxiao Capsule: on the basis of CEF, at the same time, the patients take Pingxiao Capsule (Xi'an Zhengda pharmaceutical) three times a day, six capsules each time. Two groups of patients in the treatment of nursing intervention: environmental care, in order to make patients have a better treatment environment, we should keep the treatment room quiet and clean, and regularly clean and ventilate the ward. Psychological care, patients will have depression and negative emotions during the treatment period, we should pay attention to the observation of patients' psychological status, if we find that patients have bad emotions, we should timely communicate and guide the patients' emotions, in addition, we should inform the patients' family members to strengthen the communication with the patients and reduce the patients' treatment pressure.

1.3 Observation Indicators

1) To evaluate the short-term efficacy of radical resection of liver cancer according to the evaluation criteria of chemotherapy efficacy of solid tumors formulated by WHO, including complete remission (CR), partial remission (PR), disease stability (SD) and disease progression (PD). Cr: the tumor focus disappears completely after drug treatment; PR: the product of the maximum vertical diameter and the maximum diameter of the tumor focus shrinks by 50% after drug treatment; SD: the product of the maximum vertical diameter and the maximum diameter of the tumor focus shrinks by less than PR and increases by less than PD; PD: the product of the maximum vertical diameter and the maximum diameter of the tumor focus increases by more than 25% after drug treatment. Objective remission rate (ORR) = Cr + PR, disease control rate (DCR) = Cr + PR + SD, evaluated after two cycles. 2) T cell subsets and NK cells were detected before and after the intervention. 3) the two groups were compared according to the toxicity of anti-tumor drugs formulated by WHO, including arthralgia, myelosuppression, arrhythmia, nausea and vomiting, alopecia, thrombocytopenia, leukopenia and anemia. 4) Compare the quality of life of the two groups from physiological, psychological, sleeping and physical conditions.

1.4 Statistical Treatment

Spss21.0 for statistical analysis. The measurement data are $(\bar{x} \pm s)$ for parallel t-test, and the count data are χ^2 test. The difference was statistically significant ($P < 0.05$).

2. Result

Comparison of short-term efficacy between the two groups: Cr 37 cases, PR 8 cases, SD 4 cases, PD 10 cases, Orr 76.27% (45 / 59), DCR 83.05% (49 / 59); Cr 48 cases, PR 6 cases, SD 3 cases, PD 2 cases, Orr 91.53% (54 / 59), DCR 96.61% (57 / 59). Compared with the control group, the Orr and DCR of the experimental group were higher, with statistical significance ($\chi^2 = 5.081, P = 0.024$; $\chi^2 = 5.937, P = 0.015$), as shown in Table 1.

Table 1: Comparison of short-term efficacy between the two groups [cases (%)]

group		CD3+ (%)	CD4+ (%)	CD8+ (%)	CD4+/CD8+	NK (%)
Control group(n=59)	Before intervention	62.36±5.19	33.47±5.91	24.39±4.97	1.42±0.66	18.77±7.59
	Prognosis after intervention	56.98±4.97	29.78±5.87	31.12±4.88	1.11±0.53	15.21±6.41
Experience group(n=59)	Before intervention	61.44±5.04	32.14±5.88	25.01±2.09	1.31±0.41	18.44±7.54
	Prognosis after intervention	62.56±5.89	33.77±6.01	24.11±3.21	1.41±0.38	19.31±5.97
t1,P		10.114, 0.000	8.736, 0.000	-5.157, 0.000	1.578, 0.012	3.331, 0.027
t2,P		-10.128, 0.157	-8.568, 0.048	4.975, 0.112	-1.552, 0.123	-3.301, 0.145
t3,P		10.134, 0.097	8.542, 0.112	-4.342, 0.103	1.524, 0.143	3.278, 0.148
t4,P		-9.736, 0.000	-9.798, 0.000	3.564, 0.000	-1.121, 0.000	-4.012, 0.000

CR: Complete response; PR: Partial response; SD: Stable disease; PD: Progressive disease; Compared with control group, * $P < 0.05$

Before and after intervention, there was no significant difference ($P > 0.05$) in CD3 +, CD4 +, CD8 +, CD4 + / CD8 +, cdcd8 +, cdcdcdcd8 + and NK between the two groups ($P > 0.05$); after intervention, the indexes of CD3 +, CD4 +, CD8 +, CD4 + / CD8 +, CD4 + / CD8 + and NK in the experimental group were better than those in the control group, there was statistical significance ($t = -9.736$, $P = 0.000$; $t = -9.798$, $P = 0.000$; $t = 3.564$, $P = 0.000$; $t = -1.121$, $P = 0.000$; $t = -1.121$, $P = 0.000$; $t = -1.121$, $P = 0.000$; $t = 3.564$; $t = -4.012$, $P = 0.000$), see Table 2.

Table 2: Comparison of T cell subsets and NK between the two groups before and after intervention ($\bar{x} \pm s$)

group	CR	PR	SD	PD	ORR	DCR
Control group(n=59)	37(62.71)	8(13.56)	4(6.78)	10(16.95)	45(76.27)	49(83.05)
Experimental group(n=59)	48(81.36)	6(10.17)	3(5.08)	2(2.11)	54(91.53)	57(96.61)
x2 value	-	-	-	-	5.081	5.937
P value	-	-	-	-	0.024	0.015

Note: T1 and T2 are the comparison between the control group and the experimental group before and after the intervention; T3 and T4 are the comparison between the control group and the experimental group before and after the intervention

Compared with the control group, the scores of physical condition, psychological condition, physical condition and sleep condition in the experimental group were higher ($t = 10.112$, $P = 0.012$; $t = 10.274$, $P = 0.014$; $t = 11.214$, $P = 0.009$; $t = 10.278$, $P = 0.013$). See Table 3.

Table 3: Comparison of quality of life between the two groups (score, $\bar{x} \pm s$)

group	Physiological condition	Psychological state	Physical condition	Sleep status
Experimental group(n=59)	88.21±10.18	88.51±11.19	79.20±9.28	87.31±9.66
Control group(n=59)	63.21±9.57	72.31±11.41	52.22±12.43	70.76±10.09
t	10.112	10.274	11.214	10.278
P	0.012	0.014	0.009	0.013

Compared with the control group, the drug side effects of the two groups were lower in the experimental group, such as arthralgia, myelosuppression, arrhythmia, nausea and vomiting, alopecia, thrombocytopenia, leukopenia and anemia, with no significant difference ($P > 0.05$), as shown in Table 4.

Table 4: Comparison of adverse drug reactions between the two groups [cases (%)]

group	Arthralgia	Myelosuppression	Arrhythmia	Nausea and vomiting	Alopecia	Thrombocytopenia	Leukopenia	anemia
Experimental group(n=59)	4(6.78)	0(0.00)	8(13.56)	5(8.47)	10(16.95)	6(10.17)	5(8.47)	3(5.08)
Control group(n=59)	5(8.47)	5(8.47)	11(18.64)	6(10.17)	11(18.64)	7(11.86)	11(18.64)	4(6.78)

3. Discuss

Livercancer is one of the most common malignant tumors in human, which brings great harm to human's psychology and health. However, with the increase of its incidence, some livercancer will also occur in men [5-8]. At present, surgical resection is the first choice for early patients, but long-term chemotherapy is still needed after surgery. Chemotherapy often leads to swelling of upper limbs and damage of immune function of the body. The treatment effect of chemotherapy alone is not very satisfactory [9]. Therefore, how to reduce the adverse reactions and improve the efficacy in the chemotherapy process is the difficulty of current treatment. As a unique drug, Pingxiao capsule has been reported to have significant antitumor effect, effectively improve microcirculation, significantly improve patients' immunity, but also play a role in reducing toxicity and anti-inflammatory [10].

The immune response of the body depends on various immune cells. T cell subsets can effectively mediate the cellular immune response of the body, which can effectively kill cancer cells and inhibit the growth of malignant tumors [11]. The overall level of CD3 + reactive cell immunity includes CD4 + and CD8 + subgroups. The dynamic balance between CD4 + / CD8 + is involved in the regulation of cellular immune response and the maintenance of immune balance. When the ratio of CD4 + / CD8 + decreases, the reactive body appears immunosuppression [12]. NK cells are the first line of defense against tumor, and they are widely used in killing tumor cells. For cancer patients, the decrease of NK cell activity will lead to tumor metastasis [13]. The results of this study showed that the indexes of CD3 +, CD4 + CD4 + / CD8 + and NK in the control group were significantly lower than those before the intervention ($P < 0.05$), but there was no significant difference in the above indexes in the observation group ($P > 0.05$) After intervention, CD3 +, CD4 + CD4 + / CD8 + and NK in the control group were significantly lower than those in the experimental group ($P < 0.05$), but CD8 + cells were significantly higher than those in the experimental group ($P < 0.05$), indicating that the immune function of the observation group was better than that of the control group. Therefore, Pingxiao capsule combined with CEF can effectively improve the immune function of livercancer patients. It can also effectively explain the reason of high Orr and DCR of chemotherapy patients with Pingxiao capsule In this study, the CEF regimen and the combined regimen of CEF and Pingxiao capsule all had side effects such as arthralgia, myelosuppression, arrhythmia, nausea and vomiting, alopecia, thrombocytopenia, leukopenia and anemia, including the chemotherapy regimen of Pingxiao capsule, with a clear incidence of myelosuppression and leukopenia The difference was statistically significant ($P < 0.05$). Changqinglong et al. Found that Pingxiao capsule can significantly reduce the side effects of bone marrow suppression in patients with livercancer after operation. The results showed that compared with the control group, the white blood cell content of Pingxiao capsule group was not significantly reduced after the 7th day of chemotherapy ($P < 0.05$). After the 14th day of chemotherapy, the white blood cell content of Pingxiao capsule group basically returned to normal, while the white blood cell content of the control group was still at this time Lower ($P < 0.05$). Our report is consistent with Chang Qinglong et al. It is considered that Pingxiao capsule can promote the recovery of leukopenia patients and reduce the inhibition of bone marrow during chemotherapy [14-16].

To sum up, Pingxiao capsule combined with CEF can effectively improve the short-term clinical efficacy of livercancer radical surgery, improve the immunity of patients, reduce the toxic and side effects of chemotherapy drugs, and improve the quality of life of patients with physical reform. At the same time, we can see that traditional Chinese medicine plays an active role in the treatment of malignant tumors, which is worthy of clinical attention and promotion of integrated treatment of traditional Chinese and Western medicine.

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