Proceedings of Anticancer Research

Research Article

Therapeutic Value of Trastuzumab Combined with Chemotherapy in Patients with Her2-Positive Locally Advanced Breast Cancer

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Abstract: Objective: To evaluate the clinical value of trastuzumab and chemotherapy in patients with Her2-positive locally advanced breast cancer. Methods: Fifty patients with Her2-positive locally advanced breast cancer admitted to our hospital from March 2017 to March 2018 were randomly selected and divided into control group (conventional chemotherapy) and observation group (conventional chemotherapy + trastuzumab). Results: The total effective rate of the observation group was significantly higher than that of the control group, P< 0.05. There was no significant difference in the incidence of adverse reactions between these two groups. Conclusion: The application of trastuzumab combined with chemotherapy in treating Her2-positive locally advanced breast cancer patients can effectively improve its clinical efficacy and has good safety which is worthy of promotion in clinical applications.

Keywords: *breast cancer; trastuzumab; chemotherapy; human epidermal growth factor*

Publication date: September, 2018

Publication online: 30th September, 2018

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0 Introduction

Clinically, the incidence of breast cancer is very high among women. Although early surgery and chemotherapy can achieve higher survival rate, the timing of surgery in the patients with advanced breast cancer is not optimal. Systemic treatment is beneficial to improve the possibility of surgical treatment, thereby improving the survival rate of patients[1]. This article discusses the clinical value of trastuzumab and chemotherapy in patients with Her-2 positive locally advanced breast cancer. The report is as follow:

1 Materials and methods

1.1 General information

Fifty patients with Her-2 positive locally advanced breast cancer admitted to our hospital from March 2017 to March 2018 were randomly selected and randomly divided into two groups, including the control group aged 30-69 years, with an average of 45.3 ± 2.3 years. The age of the observation group was 31-72 years old, with an average of (46.2 ± 2.5) years. The general data of that two groups are comparable.

1.2 Methods

The control group was treated with conventional chemotherapy. The applied drug was 150 mg/m2 paclitaxel + 60 mg/m^2 doxorubicin. The treatment duration was three weeks. After three courses of treatments, 175 mg/m^2 paclitaxel was given for three weeks once. After four courses of treatments, the patient was given 600 mg/m^2 fluorouracil + 40 mg/m2 methotrexate + 600 mg/m^2 cyclic phosphate and administered on the first day and the eighth day of each course of the treatment. The duration of a course of treatment is 4 weeks and with 3 courses of treatment in total.

The observation group was treated with trastuzumab on the basis of the control group. The patient was given 4 mg/kg of trastuzumab intravenously from the start of chemotherapy, and then administered once a week at a dose of 2 mg/kg. The course of treatment is three weeks, and a total of 10 courses of treatment are

provided for the patient.

1.3 Observation parameters

Comparing the total effective rate of clinical treatment in the two groups of patients, the criteria for the evaluation of efficacy[2] are the tumor area expanded by more than 25% indicates progressive; the expanded area of the tumor less than 25% or the area of reduction is not more than 50% is considered stable; the area of tumor reduction is not less than 50% represents partial remission; all primary lesions disappear is complete remission. Among them, the total effective rate = (complete remission + partial remission) / total number of people × 100%.

1.4 Statistical analysis

The relevant data in this paper were analyzed with SPSS20.0, and the difference was statistically significant at $P < 0.05$.

2 Results

The total effective rate of clinical treatment in the observation group was significantly higher than that of the control group. The difference between the groups was statistically significant ($P < 0.05$).
See table 1:

Table 1 Comparison of total effective rate between the two groups (n, %)

Group	n	Progress	Stable	Partial remission	Complete remission	Total effective rate
Control group	25	13 (52.00)	4 (16.00)	8 (32.00)	0 (0.00)	8 (32.00)
Observation group	25	5 (25.00)	5 (25.00)	14 (56.00)	1 (4.00)	13 (52.00)
x^2	/	/	/	/	/	3.95
p	/	/	/	/	/	< 0.05

In the control group, the number of adverse reactions in the joint muscle pain, liver function damage, cardiotoxicity, leukopenia, and gastrointestinal reactions were: 3 cases, 1 case, 2 cases, 11 cases, 23 cases. The number of adverse reactions in the observation group was 3 cases, 1 case, 2 cases, 12 cases, 24 cases. There was no significant difference in the incidence of adverse reactions between the two groups.

3 Discussion

Clinically, among the female cancer diseases, the incidence of breast cancer is very high which seriously threatens women's physical and mental health. The main treatment methods are surgery, radiotherapy and chemotherapy, and biological therapy. With the advancement of targeted therapy research, it is now widely used in the treatment of breast cancer.

The DNA synthesis of breast cancer cells overexpressing human Her2 gene will increase significantly, which will aggravate the degree of invasion and malignancy of breast cancer and even develop resistance to chemotherapeutic drugs resulting in decreased sensitivity to chemoradiotherapy and affect the prognosis of breast cancer patients[3]. Trastuzumab is a novel targeted therapy that targets the oncogene of Her2 positive breast cancer and is used in the treatment of Her2 positive locally advanced breast cancer patients. This drug can effectively bind to the extracellular segment of the Her2 to inhibit the angiogenic factors, thereby inhibiting angiogenesis[4]. As a monoclonal antibody, because of its role in Her2 positive locally advanced breast cancer patients, it has been approved for the treatment of patients with advanced breast cancer. The actual clinical study found that trastuzumab not only has a high affinity and targeting the tumor cells but is also less lethal to Zheng Hang cells. This also makes it a high therapeutic safety drug in clinical applications. In order to confirm the efficacy and safety of trastuzumab, a randomized group of patients were treated with chemotherapy alone and chemotherapy plus trastuzumab. The results showed that the clinical efficacy was effectively improved in patients treated with trastuzumab and the incidence of adverse reactions has not increased significantly. This has confirmed the efficacy and safety of trastuzumab in Her2 positive locally advanced breast cancer patients. The results of this study showed that the total effective rate of the observation group was significantly higher than that of the control group, $P < 0.05$; there was no significant difference in the incidence of adverse reactions between the two groups. The conclusions of Zhong Like[5] in the relevant research are consistent with this paper which also confirms the conclusion of this paper.

According to the results of this study, the application of trastuzumab combined with chemotherapy in the treatment of Her2 positive locally advanced breast

cancer patients can effectively improve its clinical efficacy, and has good safety and is worthy of promotion in clinical applications.

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