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Comprehensive Treatment for Advanced Breast Cancer

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Abstract: At present, the treatment of advanced breast cancer is aimed at early selection of first-line optimization treatment plan, after obtaining the curative effect, harvest. Continue treatment with a reasonable maintenance regimen. During the treatment, chemotherapy, endocrine therapy and targeted therapy were taken. Treatment, surgical treatment, radiotherapy and other treatment methods combined with comprehensive treatment, the following will be late. The treatment of breast cancer is reviewed.

Keywords: Advanced breast cancer; Endocrine; Therapychemotherapy

1. Introduction

Breast cancer is one of the most malignant tumors in the world, with a total of 1384 million new cases worldwide each year [1]. The incidence of breast cancer in China will rise [2]. Between 4% and 6% of breast cancer diagnosis is metastatic breast cancer, and 30% ~ 40% of early patients receiving adjuvant treatment can develop metastatic breast cancer, and the 5-year survival rate of patients is about 20%[3-4]. Metastatic breast cancer is often incurable and a challenge for clinicians. However, the treatment of advanced breast cancer can prolong the survival time of patients and improve the survival quality of patients, so that the treatment of advanced breast cancer gradually becomes the focus and hotspot of breast cancer treatment.

2. Chemotherapy and Targeted Therapy for Advanced Breast Cancer

Breast cancer is a systemic disease, prone to recurrence and metastasis. For breast cancer with negative 3 negative breast cancer, hormone receptor positive and heavy internal load, hormone receptor positive but not effective for endocrine treatment, the preferred treatment regimen is chemotherapy; The human epidermal growth factor receptor-2 (her-2) positive terminal breast cancer was also treated with chemotherapy combined with targeted therapy . Chemotherapy strategies for advanced breast cancer include single drug sequential chemotherapy and combined chemotherapy. The following treatment of advanced breast cancer is described.

2.1. Treatment for advanced breast cancer with positive her-2

College for its ehrs - 2 positive advanced breast Cancer, by bead single + chemotherapy drug resistance has become a standard, for its ehrs by bead sheet resistance to treatment failure - 2 positive advanced breast Cancer, in 2012 the National Comprehensive Cancer Network (National Comprehensive Cancer Network, NCCN) guidelines recommend alternative case is continue to application by bead for the single joint other chemotherapy drugs or lapa, plus capecitabine can also select double targeted drugs by bead and sheet resistance and pull for joint use. For patients with hormone receptor positive, trastuzumab combined with endocrine therapy strategy can also be used. Baselga 2012 [3] published CLEOPATRA research results, such as research into the group of 808 cases of its ehrs - 2 positive metastatic breast cancer patients, randomly divided into two groups, respectively, duly accepted by bead sheet resistance + mpa bead single joint + dorsey his three drug resistance or by bead sheet resistance + dorsey he combined the two drugs, the results showed that contains group of patients with palmer return bead single median PFS was 18.5 months, and by bead sheet resistance and west he match groups more PFS is only 12.4 months ($P < 0.0001$). The results indicated that the total survival of the combined group was better ($P = 0.005$, 3). With joint group medicine in diarrhea, skin rash, febrile neutral grain of cells to reduce, mucosal inflammation, and incidence of dry skin from two drugs Joint group was more common, but there were no significant difference on cardiac toxicity.

2.2. Hormone receptor positive advanced breast cancer chemotherapy

The fluvisi group injection is a novel female hormone receptor antagonist. In 0020 (North America, double-blind) and 0021 (Europe, open) two randomized phase III clinical study [4-5], always received anti-estrogen drugs, or progesterone adjuvant therapy, or transfer a gleam of endocrine treatment failure after postmenopausal hormone receptor positive metastatic breast cancer patients, the results confirmed that the fluorine d SiQun (250 mg,

1 times a month) and curative effect of anastrozole (1 mg per day), and well tolerated. In 2010, China has made a similar double-blind controlled clinical studies (D6997L00004) with machine [6], fluorine d department group time to disease progression (time to progression, TTP) for 110 d, ORR was 10% (8/121), CBR36 %, compared to anastrozole group there was no statistical difference. There were three types of drug delivery modes: 250mg (AD) per month. Load dose (LD)500mg day 0,250mg day 14, day 28, and then 250mg per month; High dose (HD)500mg day 0,500mg day 14, and then 500mg per month, pharmacokinetics showed that LD and HD were faster than AD to achieve steady state concentration [7-10]. CONFIRM (fluorine d SiQun dosage regimens of treatment of patients with metastatic breast cancer recurrence compared) is a phase III, randomized, double-blind clinical trial [11], from 17 countries were included in 128 medical center, 736 cases of postmenopausal women, fluorine d department group of 250 mg significantly and has clinical significance to extend the PFS with didn't have any now as a result of rising dose of adverse events or new security event.

2.3. Chemotherapy for advanced breast cancer in the third and third stages

Three Yin disease recurrence of breast cancer patients once development is rapid, horse lung were confirmed according to the sand with capecitabine joint used in late period of anthracycline-based and yew drug-resistant breast cancer and three female breast cancer with capecitabine alone results well. Currently ongoing international poly adenosine diphosphate ribose turn shift enzyme [poly real (ADP ribose) polymerase, PARP] antimicrobial agents, angiogenesis inhibitors, epidermal growth factor receptor antimicrobial agents, Src inhibitors and histone acetylation enzyme inhibitors, etc. Polyadenylate diphosphate ribozyme inhibitors are a new drug for the treatment of breast cancer and BRCA mutations. Clinical trials of PARP inhibitors [12]: tribetidine had only 2 cases of PR in 43 patients who had received treatment and progressive metastatic 3 negative breast cancer, which led to the suspension of the study. In another phase II trial, olaparib was administered ORR to 38% of patients with advanced breast cancer who had recurrent chemotherapy refractory BRCA. Iniparib (BSI - 201) for a more advanced three Yin breast cancer center phase II clinical trial of detected an through venous channel PARP inhibition activity of small molecule [13] [14] have a mega-restaurant named TURANDOT study, 51 research center in 12 countries, compare the two with beacizumab bead is resistant to both its ehrs first-line treatment - negative phase III clinical study of metastatic breast cancer, the primary end point for the OS, into the group, 564 patients were randomly divided into beacizumab bead sheet resistance of 10 mg · kg 1 day 1, day 15 + 90 mg of taxol m. - 2 day 1, day 8, 15 days, every 4 weeks (n = 285) and beacizumab bead sheet resistance on his 15 mg · kg 1 + marina 1 g. m - 2, the bid, day 1 to 14 days, every 3 weeks (n = 279) treatment until the toxicity of PD or not tolerance, main to end the median OS (30.5 to 26.0 months, HR 1.042, P = 0.0593), the secondary end points median PFS (11.0 to 8.1 months, HR1.36, P = 0.052) there was no significant difference.

Epidermal growth factor receptor (epithelial growth factor receptor, EGFR) is the widely used three Yin in the treatment of breast cancer had expressed proteins. So far, three phase II clinical trials have evaluated the efficacy of cetuximab, or monoclonal antibody against EGFR alone or in combination with chemotherapy. In one of the studies, 102 patients with metastatic tri-negative breast cancer were randomly assigned to either the cetuximab group or the carboplatin group, or the carboplatin group [15]. The clinical benefit of cetuximab combined with carboplatin group was significantly better than that of the carboplatin group (27% vs 10%) in the progress of cetuximab. Cetuximab three Yin combination therapy in the treatment of metastatic breast cancer has certain curative effect, to make it become a valuable treatment, require more good way to confirm this kind of treatment method of which three Yin more effective in patients with breast cancer.

3. Endocrine Therapy

The NCCN guidelines recommend that ER+ advanced breast cancer endocrine therapy is gradually increasing. At present there are mainly non-steroidal/steroidal aromatase inhibitors, exemestane + according to the dimension of therapy (the solution is suitable for in line with the BOLERO - 2 test into a set of conditions of patients), Palbociclib + to letrozole (applicable to ER + / its ehrs - 2 - the first-line therapy for postmenopausal breast cancer), fluorine d SiQun, tamoxifen or torre Finn, megestrol acetate, methyl testosterone, ethinylestradiol and so on. Patients with ER + / its ehrs - 2 + may be considered endocrine unite against its ehrs - 2 treat some studies have shown that in patients with adanced postmenopausal breast cancer, although the clinical trial results indicate no obvious difference, but Aromatase inhibitors (Aromatase inhibitors, AIs) the curative effect of seems to be better than the effect of tamoxifen (16-19). In the first-line treatment, FIRST study [16] showed that the group 500mg of fluvisi group was superior to the 1mg renning group (P = 0. 0496). In second-line treatment, CONFIRM research [17] showed that the efficacy of 500mg fluorovistes was significantly better than that of 250 mg fluorovistes (P = 0.091). FALCON [18] the results showed that: in the past did not accept ER + late endocrine therapy in metastatic breast cancer, 500 mg of fluorine d SiQun than 1 mg anastrozole obviously improved PFS (16.6 months versus 13.8 months), in the absence of

internal transfer of advanced breast cancer, curative effect is especially significant (22.3 months versus 13.8 months). Therefore, the NCCN guidelines recommend the fluorine group as a first-line and second-line treatment for advanced ER+ breast cancer. In ER+/ her-2 + breast cancer, there is a cross pathway between ER and her-2 pathways, and a single treatment effect is not good. Therefore, the ABC2 consensus recommends the application of anti-her-2 in ER+/ her-2 + metastatic breast cancer patients for combined endocrine therapy. Tan DEM test [19] (anastrozole plus or minus by bead sheet resistance in the treatment of ER + / HER2 + metastatic breast cancer) and EGF30008 test [20] letrozole for, plus or minus lapa treatment (ER + / its ehrs - 2 + or - not received treatment of metastatic breast cancer) prove that HER2 + / HR + patients can benefit in the HER2 treatment with endocrine therapy (prolong PFS, but not improve the OS). Indispensable in endocrine therapy in patients with ER + breast cancer treatment, but after patients with endocrine treatment failure, its subsequent endocrine therapy response rate has no obvious increase, and as time goes on, even if the initial endocrine therapy of patients effectively, will eventually develop resistance [21]. PI3K/AKT/ m-tor pathway is the main pathway of upstream signal transduction to downstream signal transduction. It is also a mature signal transduction pathway in breast cancer endocrine resistance research. In ER+ breast cancer, the study of m-tor inhibitors was the most mature. In a phase III clinical trial BOLERO - 2 [22], included 724 cases of nonsteroidal aromatase inhibitor therapy in postmenopausal patients with ER + advanced breast cancer after the failure, after follow-up found: in accordance with the dimension of therapy exemestane (steroid aromatase inhibitors) combination group median progression-free surial in patients with obvious extension (11.0 months versus 4.1 months). Another phase II clinical study, TAMRAD [23], showed that tamoxifen was associated with the median tumor progression time (TTP) of the drug tamoxifen group (8.6 months vs.4.5 months). Therefore, the NCCN clinical practice guide for breast cancer is recommended for the first-line endocrine therapy for advanced breast cancer, but it is mentioned that the patients need to meet the inclusion criteria of bolero-2.

4. TCM Treatment

Traditional Chinese medicine acupuncture has been used in patients with advanced stage of cancer, inconvenience of internal medicine, severe vomiting and delirium. It can make the drug directly into the blood and play a quicker analgesic effect, the pain relief time is relatively long. Chang [24] with compound sophora injection intravenous drip treatment of 66 cases of patients with malignant tumor with pain, the results show that the total effective rate was 56.1%, with mild pain effectiveness is almost 100%, but poor analgesic effect to severe pain, most needed three steps analgesic method used painkillers, but the strength of the joint pain medications and agent for the same degree pain separate three steps analgesic drugs required for small obviously. At present, there are few reports on the application of traditional Chinese medicine injection in the treatment of patients with advanced breast cancer, but the traditional Chinese medicine injection has played an important role in the treatment of the pain side of the advanced breast cancer. In addition, the potential effects of acupuncture for late pain and no damage features also becomes more and more attention from domestic and international oncologists, Carole etc. [25] of acupuncture and moxibustion treatment of a variety of tumors, including breast cancer pain of pathophysiological change and action mechanism were reviewed systematically, and puts forward it is necessary to verify its curative effect with machine controlled clinical trials and to guide clinical operation.

5. Summary and Prospect

For the treatment of advanced breast cancer, in recent years, scholars have put forward a new pattern of "management" in the whole process of the advanced breast cancer, namely recurrence, metastasis of breast cancer patients benefit from the first-line treatment, in evaluating therapeutic benefit, to enhance the quality of life, patient compliance, after careful in the choice of effective drug or scheme, a sensitive drug maintenance treatment. It can prolong the disease progression, relieve symptoms, prolong survival time and improve life treatment. Advanced breast cancer is incurable, and it is particularly important to maintain treatment after treatment is effective and cessation of further treatment is likely to occur. Of comprehensive treatment of advanced breast cancer have significant progress over the past 10 years, a variety of different treatment plan is put forward as well as the new drug research and development, make more specification of individualized treatment of tumor, curative effect is better. It is hoped that in the future clinical research of breast cancer, it will be able to further refine the benefit population and arrange the experiment more rationally to find new methods for further breakthrough of advanced breast cancer.

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