Proceedings of Anticancer Research 2018, 2(1): 9-13

BIO-BYWORD SCIENTIFIC PUBLISHING PTY LTD

Proceedings of Anticancer Research

Advances in Clinical Application of Postoperative Radiotherapy for Breast Cancer

Wu Shentian

Radiotherapy room, people's Hospital of Guangdong, Maoming, Guangdong 525000, Maoming, China 13929711131 425042506@qq.com

ARTICLE INFO

Article history:

Published online: 31st Jan, 2018

Key words:

Breast Cancer
Postoperative radiotherapy technology
Clinical Application

ABSTRACT

Objective: To explore the clinical value of color Doppler ultrasonography in the diagnosis of breast cancer. **Methods:** 99 cases of breast cancer patients were selected as the research object, retrospective analysis of its clinical treatment data. **Results:** The group of 99 patients, 97 confirmed cases, 2 cases were misdiagnosed, the diagnostic accuracy rate was 97.98%. **Conclusion:** Color Doppler ultrasonography in patients with breast cancer has the advantages of high accuracy, simple operation and noninvasive. It is worthy of promotion.

1 Clinical application of postoperative radiotherapy for breast cancer

1.1 Conventional radiotherapy for breast cancer after radiotherapy

In radiotherapy after breast cancer operation method, application routine treatment of both the maturity or application range have certain advantages, can fundamentally improve the local control level of breast cancer surgery, with conventional therapy in the treatment of the actual operation mechanism, to position the chest wall, clavicle position and lymph node location for effective treatment, and also to radiation therapy on axillary and internal mammary lymph node area. It should be noted that the current treatment of internal mammary lymph node area should be careful, to avoid excessive increase in the amount of heart tolerance, causing adverse reactions. In Chen Lei, Zhu Chaohua, Xu Zihai of [1] and other scholars, in the midst of postoperative radiotherapy for breast cancer during the whole breast irradiation, irradiation range to deal in and out, especially on the primary lesions were an additional dose of irradiation operation. In addition, the breast irradiation mechanism combined with tumor bed radiotherapy mode, because it can truly reduce the recurrence of local tumor, therefore, has become the most commonly used treatment mechanism for the treatment of patients.

Distributed under creative commons license 4.0

That is to say, breast irradiation has become a routine treatment for breast cancer after breast conserving surgery.

In addition, in the whole breast routine tangential field irradiation, the target dose is obviously different, uneven distribution is more obvious. Especially in the upper and lower breast, breast nipple lower area should be carried out in high dose treatment, and even some specific circumstances change with the dose, dose over about 20% of the prescribed dose, it is because of the difference of the dose, the breast cancer after radiotherapy of tumor bed also has the problem of increasing the local recurrence rate. And, in 20% to 40% of the surgical specimens appeared more special case, the residual lesions in primary lesions around 2 cm, and the local recurrence of more than 60% of patients have appeared in the periphery of the original tumor bed, this is also the majority of postoperative radiotherapy for breast cancer with the main reason tumor bed boost treatment management to achieve local control. According to Wang Qiang, Qu Debao, Chen Honglin [2] research, randomized treatment management of tumor bed boost, verifies the importance of tumor bed boost treatment, and the local recurrence rate will be controlled.

Application of technical assistant measures for postoperative radiotherapy in 2 breast cancer patients. In particular, the risk of recurrent risk in young women is more significant when the tumor bed dose is increased. In the study, the overall survival rate is more than 80%.

1.2 Three dimensional conformal radiotherapy for postoperative radiotherapy in breast cancer patients

Three dimensional conformal radiation therapy in the current research mechanism of advanced treatment measures, with the aid of high-precision modern radiotherapy technology, is a research significance of treatment measures. Combined with CT images, 3D reconstruction of tumor structure was carried out, so as to integrate different directions, effectively deal with relevant parameters and information, and ensure the processing effect fit the actual [3]. In particular, the different lead areas are set in different directions, and the lead blocking structure is consistent with the shape of the lesion to ensure that the distribution of the high dose area can be unified with the related shape of the three-dimensional target area. That is to say, in the process of carrying out the treatment mechanism, basic process and characteristics of integration technology of operation, ensure the optimization degree of three-dimensional dose distribution plan, ensure the local control performance of the uniform dose distribution of target can effectively improve the rate of tumor, to a certain extent, to ensure the normal tissue around the lesion can be effectively reduced by. It is because of the continuous development of radiotherapy after breast cancer surgery, three dimensional conformal therapy and other conventional clinical treatment mechanisms can meet the actual treatment mechanism and demand [3].

In the process of three-dimensional conformal radiation therapy project of the study, combined with conventional treatment mechanism and IMRT project, establish model for comparison, the actual dose of radiotherapy treatment of patients with breast cancer were controlled, and the establishment of comparative analysis of structure, the three-dimensional conformal radiation therapy project display treatment, the obvious to improve the traditional dose and PTV, can fundamentally reduce radiation dose, improve the therapeutic effect, reduce the side effects of [4]. In addition, the application of three-dimensional conformal radiotherapy can effectively improve the actual efficacy of the recent treatment, and ensure the reduction of acute toxicity caused by the overall treatment process. It is worth noting that, in the three-dimensional conformal radiotherapy in depth analysis and related project started a comprehensive

Distributed under creative commons license 4.0

study, it can accelerate the clinical study on the treatment of breast I stage and II stage were analyzed, to study its practical value from the root, to the three stage effect to observe.

1.3 Intensity modulated radiation therapy after radiotherapy for breast cancer

In the process of the actual treatment work, in order to fundamentally improve the level of treatment, it is necessary to co-ordinate the overall analysis of different treatment mechanisms. The IMRT method with the use of computer technology to control the output dose field within each region, the effective integration of treatment at the same time, but also to the target area within the three-dimensional measurement distribution structure of a comprehensive treatment, improve the adjustment mechanism and treatment effect to a certain extent, to maintain the target area in the distribution of the effectiveness of the 3D measurement the effectiveness and fundamentally. Only to ensure the adaptability of internal three-dimensional dose distribution of target and effectiveness, to ensure that the target dose uniformity and stability, improved fundamentally to the extent of the surrounding environment, the effective integration of organ dose and actual volume, ensure the postoperative breast cancer radiotherapy can play its actual value.

In Yang Ling, Li Xiaobing and other scholars in the study of [5], 100 cases of patients with breast cancer underwent modified radical mastectomy patients as the research object, at the age of 27 to 55 years old, among them, 54 cases of left breast cancer, 46 cases of right breast cancer were TNM staging of the three period, is the application of three-dimensional conformal radiotherapy surgery the control analysis and hypofractionated intensity-modulated radiation therapy, 46 cases of the former in the latter 54 cases, breast dose volume and heart dose volume on the contralateral analysis and control, advanced IMRT skin fibrosis and dysfunction of lymphatic drainage and other radioactive reaction rates significantly lower than the three-dimensional conformal radiation therapy, application the effect is better. Also, standard radiotherapy compared with traditional method, has certain advantages in the measurement of the distribution, can effectively reduce the acute skin reaction, and the probability of occurrence is controlled within a specified range of wet dermatitis, fundamentally improve the pain of breast region and other issues, to further enhance the overall level of treatment. In addition, the intensity modulated radiation therapy and conventional tangential field technology were compared and analyzed, the former had obvious dose uniformity, and can effectively improve the therapeutic effect.

In the process of carrying out the actual treatment, the positive application of IMRT plans, by means of comparative analysis of the dose volume histogram and target cell volume and other parameters, can effectively analyze the treatment mechanism, can protect the target coverage and the overall level of treatment on the basis of maintaining the stability of uniform dose distribution, also for the follow-up work carried out comprehensive protection, maximize reduce the possibility of organ is jeopardized, avoid the dose and volume increasing. In addition, the thickness of the breast and the center of the different fields of the lung is larger, so the advantage of IMRT in this respect is also obvious [6].

1.4 Image-guided radiotherapy for breast cancer after radiotherapy

In the actual treatment process, image guided radiation therapy is the main mechanism of X-ray image by using two-dimensional X and three-dimensional reconstruction image, X-ray image four-dimensional radiotherapy techniques for comprehensive treatment, so as to ensure the optimization of treatment technology and overall treatment effect. It should be noted that in the process of image-guided radiotherapy and the operation of the system, the two-dimensional

dose measurement system can provide the guarantee for the follow-up work. Among them, the KV level CT image is more critical, can effectively improve the scanning rate, and ensure the clarity of the presentation, the actual implementation of the online calibration of the operating requirements. The cone beam CT can be used in the actual treatment structure to ensure that the image processing level and the change degree of the treatment image meet the actual change parameters

2 Radiotherapy and radiotherapy technology development trend of breast cancer

In the process of analyzing the structure of related radiotherapy, it is necessary to extract the corresponding surgical mechanism and treatment measures from relevant information, so as to ensure the treatment effect is in line with expectations, to a certain extent, maintain the stability of treatment level and treatment parameters.

On the one hand, the main application is accelerated partial breast irradiation method, which is mainly for the treatment of breast tumor after resection of lesions around the edge of the bed position is about 1 cm to 2 cm, because not the entire breast for treatment, need for accelerated partial breast radiation dose control in 4 to 5 days, unconventional processing time control in about 6 weeks, with the relevant data analysis and research, to ensure local radiotherapy reduced primary tumor resection margin of breast tissue tumor recurrence problems still exist. Note that the APBI can be implemented in the management of patients with breast cancer after surgery, has the certain development prospect in the whole project, the insertion process of radiotherapy, three-dimensional conformal irradiation process or proton radiotherapy, radiotherapy and other forms of particle. Only effective integration of the relevant treatment mechanism and operation strategy, can we carry out effective data analysis and local control rate management for specific circumstances, especially for inter tissue brachytherapy and water sac catheter brachytherapy.

On the other hand, the field is mainly in the field of radiotherapy, integration and processing model based on no wedge on the field in the direction of increasing unit, and combined with high dose region technology effectively block the breast, to make the internal dose area more complete and uniform, fundamentally reduce the breast high dose appears inconsistent area, only to reduce fibrosis resulting, can effectively guarantee the curative effect after the breast does not appear abnormal effect. It is by means of Nonaka No structure, can the actual level and enhancing the effect of radiotherapy, ensure the dose distribution of PTV in breast cancer is more uniform and effective, especially in the treatment of patients, related organizations, etc. for example, soft tissue structure, ipsilateral lung structure, cardiac structure and has a very good protective effect, based on this, in better application effect in the wild field after breast cancer surgery [8].

Concluding remarks:

In short, in the development of breast cancer radiotherapy technology in the process, in order to effectively reduce the recurrence rate, medical personnel should actively construct dose complete management system, improve the level of treatment at the same time, further integration of improvement measures and treatment management strategies, improve the treatment process, to avoid the impact of breast displacement, improve the actual effect of strengthening clinical technology. The treatment level and the overall framework for integrity, realize the sustainable development of medical.

References

[1] Chen Lei, Zhu Chaohua, Xu Zihai, et al. Progress in clinical application of postoperative radiotherapy for breast cancer [J]. clinical medical engineering, 2013,20 (07): 917-920.

[2] Wang Qiang, Qu Debao, Chen Honglin et al. Dosimetric evaluation [J]. Journal of Xuzhou Medical College of different radiotherapy after breast cancer surgery, 2015 (02): 116-121.

[3] Tong Qin, Wu Haibiao, Chen Zhengsong. 3 kinds of radiotherapy after modified radical mastectomy of the dosimetry of [J]. Journal of practical medicine, 2015,25 (18): 3016-3018.

[4] Sun Yanze, Qian Jianjun, Zhou Gang, et al. Comparison of two kinds of radiotherapy techniques for breast cancer after breast conserving surgery. [J]. radiation research and radiation technology, 2014,32 (04): 16-20.

[5] Yang Ling, Li Xiaobing, et al. Dose monitoring analysis of breast cancer radical surgery radiotherapy technique in phantom: clinical application of intensity modulated therapy in breast cancer [J]. Chinese Journal of hemorheology, 2014,21 (04): 586-588615.

[6] Wang Huafang, Yang Guozi, Yang Xu, et al. Comparison of dose parameters of 4 kinds of radiotherapy after breast conserving surgery for early breast cancer [J]. modern medical oncology, 2016,24 (16): 2549-2553.

[7] Liu Guihong, Xu Yumei, Tang Tianyou, et al. Dosimetric evaluation of various radiotherapy techniques after breast conserving surgery for left breast cancer [J]. Journal of Xuzhou Medical College, 2014,31 (10): 666-669.

[8] Wang Binliang, Ceng Zhaochong, Liu Juan, et al. Radiotherapy techniques and indications after breast conserving surgery for breast cancer [J]. clinical medicine of China, 2014,17 (02): 288-291.