

Clinical Analysis of Patients with Cervical Cancer After Adequate Radiotherapy and Surgery

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Abstract: *Objective:* To explore the effect of giving adequate radiotherapy before surgery on the recovery of patients with cervical cancer. *Methods:* An experimental study was carried out in Aviation General Hospital (hereafter referred to as our hospital) from March 2022 to March 2023. Fifty patients with cervical cancer were retrospectively analyzed. The patients underwent surgery 15–20 days after adequate external radiotherapy, and the clinical effect was analyzed. *Results:* The symptoms of the patients were relieved, among which contact bleeding and irregular vaginal bleeding completely resolved in 27 patients and 19 patients, respectively; although intermittent vaginal bleeding persisted in 3 patients, the symptom improved compared with before treatment; for 1 patient, the treatment was ineffective, as there was no significant improvement in symptoms. For patients with stage IB2 cancer, the tumor reduction rate after treatment was about 50%–70%, but the reduction in 2 patients was insignificant. *Conclusion:* Cervical cancer is a serious condition. Adequate radiotherapy before surgery has a significant effect. It reduces the difficulty of surgery and creates an opportunity for patients to undergo surgery, thus improving the treatment effect. Therefore, it is worthy of clinical promotion.

Keywords: Cervical cancer; Adequate radiotherapy; Surgical treatment; Clinical effect

Online publication: May 29, 2023

1. Introduction

Cervical cancer is a common malignancy among women. Its incidence is relatively high, and there has been a continuous increase in recent years. Cervical cancer has garnered widespread clinical attention in recent years. Judging from the current situation, the clinical treatment of such patients is usually surgery, but for some patients in the advanced stage, due to the severity of their condition, comprehensive therapy including radiotherapy and chemotherapy is often used on the basis of surgery in order to improve the symptoms and prolong the survival period of patients^[1]. With medical advancements in recent years, clinical research has strengthened. Data have shown that giving adequate radiotherapy to patients with cervical cancer before surgery can enhance the therapeutic effect on patients with advanced disease. On this basis, taking patients in our hospital as research subjects, adequate radiotherapy before surgery was performed, and the effect was analyzed.

2. Materials and methods

2.1. Data analysis

This study was carried out in our hospital from March 2022 to March 2023. The subjects of the study were 50 patients with advanced cervical cancer under the care of our hospital during this period. All patients were female, with the oldest being 70 years old, and the youngest 35 years old; the mean age of the patients

was 50.45 ± 3.23 . Among them, 30 cases were stage IB2, while 20 cases were stage IIB2. The patients were diagnosed based on the diagnostic criteria for cervical cancer. The clinical symptoms of the patients were mainly contact bleeding and irregular vaginal bleeding. All patients in the study were informed about the experimental process and expressed their willingness to cooperate with the study. The study was approved by the hospital ethics committee. The possibility of patients with other major diseases and psychiatric history can be excluded.

2.2. Research methods

After the patients were admitted to the hospital, various investigations were performed, including routine blood examination, liver and kidney function, electrocardiography, chest radiography, and pelvic computed tomography (CT). The patients were given adequate radiotherapy before surgery. The patients underwent whole pelvic irradiation based on external irradiation of 6 MV X-rays. The dose was controlled at 20–50 Gy, and the irradiation was performed five times a week, from Monday to Friday. The course of the treatment was four weeks. After the completion of the scheduled radiotherapy, the patients were examined for parametrial infiltration. Given the improvement or disappearance of the surrounding infiltration and the increased elasticity of parametrial tissue, surgery was performed 15–22 days after completion of radiotherapy. The surgical procedures included radical hysterectomy, pelvic lymph node dissection, and bilateral adnexectomy.

2.3. Observation indicators

The patients in this study were observed and followed-up on their treatment and prognosis.

3. Results

3.1. Treatment effect

The symptoms experienced by the patients were relieved after adequate radiotherapy and surgery; among them, contact bleeding and irregular vaginal bleeding completely resolved in 27 patients and 19 patients, respectively; although intermittent vaginal bleeding persisted in 3 patients, the symptom improved compared with before treatment; in 1 patient, the treatment was ineffective, as there was no significant improvement in symptoms. Gynecological bimanual and trimanual examinations showed that the parametrial tissue softened and the parametrial space widened in these patients. For those with stage IB2 cancer, the tumor reduction rate after treatment was about 50%–70%, but there were 2 patients whose tumor reduction was insignificant.

3.2. Surgical situation

The surgery for all 50 patients went smoothly, without any major complications, such as massive bleeding. The average bleeding volume was about 600 mL.

3.3. Pathological analysis

None of the patients had parametrial invasion after surgery; there was no invasion to the vaginal stump, and the patients showed no signs of lymph node metastasis.

3.4. Postoperative follow-up

All 50 patients were followed-up for 1 year after surgery. Among them, 3 patients died of lung metastasis, while the other 47 patients survived. No patient had pelvic recurrence or lymph node metastasis.

4. Discussion

Cervical cancer is a common malignancy in clinical practice, and it continues to be listed among the top gynecological malignancies in our country. The symptoms of cervical cancer are mainly irregular vaginal bleeding and contact bleeding on sexual intercourse, both of which have a great impact on the quality of life of patients. If patients are not timely treated, their condition may deteriorate and metastasis may even occur, thus reducing the survival period of patients and posing a serious threat to their health. With the country's development in recent years, many people are now adopting unhealthy lifestyles, leading to an increase in number of cervical cancer cases in our country. Cervical cancer has become a major disease that poses a serious threat to women's health. However, clinical research on the treatment of cervical cancer has also been strengthened in recent years, with new treatment methods being introduced, updated, and improved, so as to ensure the improvement of treatment effect and prolong the survival period of cervical cancer patients.

Comprehensive therapy including chemotherapy, radiotherapy, and surgery is usually used for the treatment of cervical cancer. It is believed that any one of these methods can achieve better therapeutic effect. Among them, radiotherapy can reduce the tumor area, gradually promote the recovery of patients, prevent metastasis, and effectively control the disease; surgery, on the other hand, can be used to remove the lesion directly, block the development of cancer cells, and promote the recovery of patients. According to research data, the 5-year survival rate of patients with early cervical cancer is as high as 80% after surgery or radiotherapy alone, but the combined treatment can enhance the clinical effect and prolong the survival time of patients ^[2]. However, despite clinical advancements, there are still some patients who have poor awareness, and when the disease is detected, it is already in the middle and advanced stage. Such patients usually have parametrial invasion or regional lymph node metastasis, which makes surgery more difficult, patients more prone to massive bleeding during surgery, and reduces the treatment effect, resulting in high postoperative recurrence rate and mortality; in addition, the 5-year survival rate after treatment is only about 50%.

On this basis, it has been clinically suggested that adequate radiotherapy should be performed before surgery. Preoperative radiotherapy can create operative opportunities for patients who are unable to undergo surgery, promote parametrial cancer cell death, widen the parametrial space, and reduce the tumor volume. It provides treatment opportunities to patients who are unable to undergo surgery. Clinical research data have shown that in patients with stage IB2 or stage II cervical cancer, the benefits of preoperative radiotherapy can only be observed when the tumor area is 4 cm or more than 6 cm ^[3]. Among the patients with stage IB2 cancer in this study, a significant reduction in tumor volume and intraoperative blood loss was observed. In addition, the tumor volume reduction in patients with squamous cell carcinoma was found to be more significant than that in patients with adenocarcinoma ^[4], suggesting that cervical adenocarcinoma has poor radiosensitivity. At the same time, through preoperative radiotherapy, local lesions may reduce or disappear, the parametrial tissue becomes softer, and the parametrial space becomes wider, which can reduce the scope of surgical resection and risk of damage to the patient. This would not only be less traumatic to the patients, but also improve the thoroughness of surgical resection, thereby increasing the success of surgery and reducing the recurrence rate ^[5]. At the same time, adequate preoperative radiotherapy has a certain toxic effect on cancer cells and can seal the patient's lymphatic vessels and microvessels, thus preventing cancer cell proliferation or metastasis during surgery ^[6]. Among the patients in the present study, lung metastases occurred in 3 cases, with no other metastases found. For patients with stage IB2 and stage IIB cancer, surgical intervention after radiotherapy can reduce the need for long-term radiotherapy, thereby reducing the occurrence of cervical adhesions, endometritis, intrauterine effusion, and empyema ^[7]. It can reduce the pain caused by the disease itself or treatment, the economic burden on the patient, and the incidence of complications, such as radiation proctitis and radiation

cystitis; these benefits are of positive significance for improving the treatment effect and promoting the recovery of patients^[8]. From the perspective of surgery, the results of the present study showed that the average intraoperative blood loss was 600 mL, with no serious complications occurring during the surgery, and all operations were successfully completed. The sutures were removed within 7 days after surgery, and the patients were discharged from the hospital 8–10 days after surgery. The incisions healed well; none of the patients had delayed wound healing or failure of proper wound healing, indicating that preoperative radiotherapy and surgery have positive significance for cervical cancer patients. In the postoperative follow-up period, ThinPrep cytology test (TCT) of the vaginal stump and CT scan were regularly performed. The results showed good postoperative recovery effect. Although 3 patients died from lung metastasis, the quality of life and survival rate of the remaining patients were good.

In conclusion, patients with advanced cervical cancer are in severe states. The quality of life of some patients are poor due to their intolerability to surgery. With preoperative radiotherapy, the tumor size can be reduced before surgery, the patient's surgical adaptability can be improved, patients are provided with the opportunity for surgery, and the surgery can be carried out smoothly, thus reducing the risk of complications. Preoperative radiotherapy is of great significance to alleviating symptoms, ensuring the effectiveness of surgical removal, and improving the survival rate of patients after surgery. Through this study, we recommend the popularization of preoperative radiotherapy.

Disclosure statement

The authors declare no conflict of interest.

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