

Insights into the Nursing for Gynecological Malignant Tumor Patients Complicated by Diabetes Undergoing Chemotherapy

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Abstract: Objective: To investigate the effect of nursing intervention on gynecological tumor patients complicated by diabetes during chemotherapy. Methods: 100 gynecological tumor patients complicated by diabetes undergoing chemotherapy in our hospital from May 2019 to May 2020 were selected and randomly divided into two groups. The control group received general nursing treatment, while the experimental group received nursing interventions, such as hypoglycemia nursing, adverse reaction interventions and psychological counseling on the basis of general nursing. The clinical nursing effects of two groups were observed. Results: After effective nursing interventions, the incidences of adverse reactions and hypoglycemia in gynecological tumor patients complicated by diabetes undergoing chemotherapy was significantly lower than those of the control group, $P < 0.05$, with statistical significance. The nursing satisfaction of the experimental group was significantly higher than that of the control group, $P < 0.05$. Conclusion: In the post-chemotherapy nursing of gynecological malignant tumor patients complicated by diabetes, hypoglycemia nursing, adverse reaction interventions and psychological counseling, etc. can improve the patients' satisfaction and lower the incidence of complications. It is worthy of clinical promotion.

Keywords: gynecological malignant tumor; complicated by; diabetes; chemotherapy; nursing

1. Introduction

With increasing pressure in women's life and work and changes in modern people's lifestyles, the prevalence of gynecological malignant tumor is increasing year by year, which poses a serious threat to women's life and health. On the other hand, due to the increase of living standards and great improvement of diet structure, more and more people are suffering from diabetes^[1]. In recent years, gynecological malignant tumor patients complicated by diabetes have attracted the attention of medical staff in both clinical treatment and clinical nursing due to their particularity. Malignant tumors are a highly consumptive disease, and chemotherapy may reduce the immunity of

patients and aggravate the gastrointestinal reactions. Therefore, more nutrients should be given to patients. However, due to a lack of insulin in the body, patients with diabetes often have unbalanced metabolism of glucose, protein and fat, which triggers a variety of complications and requires the supplementation of nutrients. If not handled properly, this will seriously affect the quality of life of the patients. Therefore, it is of great significance to give nursing interventions to gynecological malignant tumor patients complicated by diabetes clinically during chemotherapy^[2-3]. How to implement more effective nursing interventions on such kind of patients during chemotherapy has become an urgent issue to be addressed by clinical gynecological nursing staff and also a problem to be reflected on in the existing development of interdisciplinary medicine^[4].

In this study, 100 gynecological tumor patients complicated by diabetes undergoing chemotherapy in our hospital from May 2019 to May 2020 were selected. Below, the research will be reported, with a view to provide a reference for clinical practice.

2. Data and Methods

2.1. General Data

A total of 100 gynecological tumor patients complicated by diabetes undergoing chemotherapy in our hospital from May 2019 to May 2020 were selected. None of the patients enrolled suffered from organ lesions. All of the patients were divided into two groups according to the principle of random allocation, with 50 patients in each group. The control group received routine nursing, while the experimental group received additional nursing interventions on the basis of routine nursing. There were 50 patients in the control group, aged 29-64 years, with an average age of 46.2 ± 4.2 years, including 20 cases of cervical cancer, 12 cases of endometrial cancer, 8 cases of ovarian cancer, and 10 cases of endometrial stromal sarcoma. While there were 50 patients in the experimental group, aged 28-61 years, with an average age of 47.2 ± 8.2 years, including 22 cases of cervical cancer, 11 cases of endometrial cancer, 12 cases of ovarian cancer, and 5 cases of endometrial

stromal sarcoma. There were no significant differences between the experimental group and the control group in terms of general data concerning age, course of disease and type of disease, $P > 0.05$. Informed consents had been signed by all patients participating in this study. The present study were submitted to and approved by the ethics committee.

2.2. Methods

The control group received routine nursing, while the experimental group received nursing interventions. The specific nursing contents were as follows:

2.2.1. Psychological intervention

The treatment process was very painful, so patients with gynecologic tumors and diabetes often exhibited many psychological problems, such as anxiety, fear and despair. Patients not only suffered the pain of the disease, but also suffered from all kinds of complications and economic pressure, which caused great psychological pressure to the patients and also exerted a negative impact on clinical treatment. Therefore, in clinical nursing, it was necessary to understand the real situation of patients, grasp the psychological status of patients, give concern and counseling to patients in time and help adjust their mentality. For this reason, medical staff should give proper health education to patients, so that the patients and their families can recognize the diseases correctly and enhance the confidence in regaining health.

2.2.2. Hypoglycemia nursing

The control of blood glucose in patients can guarantee the success of chemotherapy. Chemotherapy drugs may cause damage to the normal tissues and organs of patient, thus aggravating the diabetes, and in severe cases, endanger the life of patients. To avoid allergy in some patients in clinical medication, when some chemotherapy drugs were administered, it was necessary to use glucocorticoids to resist the allergy. However, the anti-insulin effect of glucocorticoids can increase the concentration of blood glucose. So before chemotherapy was administered, the blood glucose of patients should be closely monitored and controlled within 6.0-8.0mmol/L. At the end of chemotherapy, the blood glucose of patients should also be recorded, and the dosage of insulin should be adjusted based on the patients' peripheral blood glucose. The clinical hypoglycemia nursing was as follows: attention was paid to the diet of patients. Extra meals can be given to patients with significant loss of appetite and severe nausea and vomiting following radiotherapy. The blood glucose of patients was monitored every day, and the dosage of insulin was adjusted in a timely manner according to the blood glucose value and food intake of patients. Attention should be paid to strictly distinguish the symptoms of hypoglycemia, such as nausea and fatigue during chemotherapy and patients were encouraged to take in food rationally.

2.2.3. Prevention against infection

Gynecological tumor patients complicated by diabetes were prone to infection due to their long bed rest and lower immunity. The specific protective measures were as follows: the air inside the ward was kept fresh, the ward was ventilated at fixed intervals, and disinfected using ultraviolet radiation regularly. The frequency of visit and number of visitors were minimized, and visits from relatives and friends were prohibited when necessary. Patients should wear soft and loose clothes, to prevent friction. Daily nursing was performed on the skin of patients, problems (if any) with the skin of patients was observed and treated in a timely manner, and the temperature of patients was monitored and recorded regularly, to prevent phlebitis.

2.2.4. Prevention against the extravasation of chemotherapy drugs and phlebitis

Some chemotherapy drugs may cause phlebitis or extravasation of chemotherapy drugs easily due to their strong irritation. In order to prevent the extravasation of chemotherapy drugs and phlebitis, the following nursing strategies were taken: strict aseptic operations should be performed during injection. For drugs with strong irritation, the concentration should be reduced as appropriate, and the blood vessels of patients should be protected. When drugs were injected, thick blood vessels should be selected as far as possible and the infusion sites should be arranged as planned. If the drugs were found to extravasate, the injection should be stopped immediately and the extravasated chemotherapy drugs should be absorbed. Antidote should be infused through the original venous channel, and dexamethasone should be used for partial closure. Meanwhile, ice packs were used for cold compress. The injected limbs of patients were elevated. Changes in the local skin of patients were observed. If the injection failed, another blood vessel should be used instead immediately and re-punctured.

2.2.5. Guidance on dietary structure

According to the illness, age and constitution of patients, different diet plans were tailored for different patients, to ensure the balance of the consumption and absorption of nutrition. The food intake of patients should be controlled, and the diet should be taken at a fixed time, with fixed quantity. Gluttony should be prevented and the diet should be regular. Moreover, patients should take eat cereals, vegetables and foods rich in protein in their diet. Alcohol, tobacco, food with high fat, high sugar and high calorie should be strictly prohibited. Insulin should be injected subcutaneously or hypoglycemic drugs should be taken orally before meals.

2.2.6. Health education and guidance

Before and after patients received chemotherapy in the hospital, the medical staff should give health education and guidance to the patients properly, adjust their mindset, and urge them to take drugs on time, revisit the outpatient clinic on a regular basis, not to take drugs other than doctor's advice or stop taking drugs without authorization. Moreover, patients should be taught to measure their own

blood glucose, inject insulin subcutaneously by themselves, distinguish hypoglycemic reaction by themselves, learn applicable treatment measures and avoid all kinds of infections.

2.3. Observation Indicators

The changes in the blood glucose levels, incidences of complications, nursing satisfaction and psychological status scores of two groups after chemotherapy were recorded.

2.4. Statistical Analysis

The data were processed using SOSS13.0 software. Measurement data were expressed as mean± SD. Enumeration data were compared by inter-group comparison and analyzed using One-way ANOVA. ANOVA for repeated measurement was used for intra-group comparison. The data were compared. If P<0.05, then the difference was statistically significant.

3. Results

3.1. Changes in the Post-chemotherapy Blood Glucose Levels of Two Groups

After chemotherapy, the fasting blood glucose and 2-hour postprandial blood glucose of the experimental group were significantly lower than those of the control group, P<0.05. The data were shown in the table below. (See Table 1)

Table 1. Changes in the post-chemotherapy blood glucose levels of the experimental group and the control group.

Group	Number of Cases	Fasting Blood Glucose (mmol/L)	2-hour Postprandial Blood Glucose (mmol/L)
Experimental Group	50	6.2±0.2	6.6±0.6
Control Group	50	7.4±0.7	7.4±0.8
P		<0.05	<0.05

3.2. Comparison of the Post-chemotherapy Incidences of Complications between Two Groups

After chemotherapy, the incidences of complications of the experimental group and the control group were compared. The incidence of complications of the experimental group was lower than that of the control group, i.e. P<0.05. (See Table 2)

Table 2. Comparison of the Post-chemotherapy Incidences of Complications between Two Groups.

Group	Number of Cases	Respiratory Tract Infection	Urinary Tract Infection	Incision Infection	Incidence of Complications
Experimental Group	50	0	0	1	2%
Control Group	50	1	3	2	12%
P		<0.05	<0.	<0.	<0.05

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3.3. Comparison of the Post-chemotherapy Nursing Satisfaction between Two Groups

After chemotherapy, the nursing satisfaction of the experimental group was significantly higher than that of control group, P<0.05. The contents of nursing satisfaction included overall satisfaction, technical level and service satisfaction. If the score was more than 80, the patients were very satisfied. If the score was more than 65, but less than 80, the patients were satisfied. If the score was less than 65, the patients were dissatisfied. (See Table 3)

Table 3. Comparison of the post-chemotherapy nursing satisfaction between the experimental group and the control group.

Group	Number of Cases	Very Satisfied	Satisfied	Dissatisfied	Satisfaction Degree
Experimental Group	50	35	13	2	96%
Control Group	50	14	18	18	64%
P		<0.05	<0.05	<0.05	<0.05

3.4. Comparison of the Post-chemotherapy Psychological State Scores between Two Groups

After special care, patients in the experimental group were relieved in terms of negative emotions, such as anxiety and depression. The integrated emotional scores of the experimental group were higher than those of the control group, with significant difference, that is, P<0.05. (See Table 4)

Table 4. Comparison of the Post-chemotherapy Psychological State Scores between the Experimental Group and the Control Group

Group	Number of Cases	Mean of Psychological State Scores
Experimental Group	50	32.1±6.4
Control Group	50	59.2±5.3
P		<0.05

4. Discussion

Today, it seems that the incidence rate of gynecological malignant tumors is growing year by year, and the patient population tends to be younger. As a common endocrine disease, diabetes has gradually become one of the major killers endangering the health of people and the incidence is also on the rise. Malignant tumors have brought heavy physical and mental burdens to female patients. Without a correct understanding of tumors, patients are often overwhelmed by great fear, believing that tumors often mean death and thus developing a pessimistic and negative psychology^[5-7]. On the other hand, diabetes may lower the immune function of patients, and all kinds of complications are more likely to occur during chemotherapy^[8]. Medical staff should

give health education to patients on diseases, take psychological interventions against the patients, alleviate the patients' psychological burden, channel their negative emotions, and improve their compliance with treatment regimens, so as to increase the quality of life of patients and ensure the effect of chemotherapy^[9-11]. On the other hand, the clinical staff should not only strengthen protection against the aggravation of diabetes caused by chemotherapy, but also pay attention to guarding against the infection and lesions in peripheral vessels, minimizing complications and avoiding a sharp decline in patients' quality of life^[12-13].

In the present experiment, nursing interventions are given to gynecological malignant tumor patients complicated by diabetes during chemotherapy. The results show that the conditions of the patients in the experimental group have been well controlled, the postoperative complications and blood glucose level have also remained stable, and their psychological status scores are good, too. The results suggest that nursing interventions are effective and feasible for gynecological malignant tumor patients complicated by diabetes. They are of clinical significance.

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