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Study of Butorphanol, Dezocine and Dexmedetomidine in the Field of Accelerated Recovery of Gynecological Malignancies

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Abstract: *Reducing the adverse stress response of patients in the perioperative period is the most basic principle of accelerated rehabilitation. It is well known that surgery will prompt the body to produce a corresponding stress response, thereby stimulating the body to release various hormones and inflammatory mediators, resulting in enhanced catabolism, which is not conducive to the healing of incisions and wounds. However, a series of measures of accelerated recovery in the perioperative period are precisely to reduce the occurrence of adverse stress reactions in patients. The purpose of this study is to systematically evaluate the efficacy and safety of the concept of fast recovery surgery in the operation of gynecological malignant tumors with the help of Meta analysis method, and to evaluate the efficacy and safety of fast recovery surgery concept in gynecological malignant tumor surgery. The use in tumor patients provides a basis for clinical surgeons to explore the best perioperative treatment plan. The experimental results show that the heart rate wake-up period of patients who use butorphanol 2 mg and dexmedetomidine 0.5 μg is shorter. For dezocine 10 mg and dexmedetomidine 0.5 μg, the heart rate wake-up time of group A was 68.82 minutes and 71.23 minutes, respectively. Butorphanol 2 mg and dexmedetomidine 0.5 μg were used to accelerate the recovery of patients with gynecological malignant tumors. have a certain effect.*

Keywords: *Accelerated Recovery, Wound Healing, Malignant Tumor, Meta Analysis*

1. Introduction

Enhanced recovery surgery was proposed by Professor Kehlet of Denmark in the 1990s, and was subsequently optimized and improved by the ERAS Association established in 2001. ERAS adopts a series of effective optimal treatment measures confirmed by evidence-based medicine in the perioperative period through a multi-modal approach to reduce the physical and psychological stress of patients during the treatment process. The fundamental purpose is to allow patients to transition smoothly Through the perioperative period and promote its early return to normal function [1]. This diagnosis and treatment process will be accompanied by the advantages of reducing perioperative complications, shortening hospital stay, reducing the risk of readmission and death, and saving medical expenses. In China, enhanced recovery surgery expert groups have been established in many fields and relevant consensuses have been put forward.

In recent years, many researchers have studied the application of butorphanol, dezocine and dexmedetomidine in the field of accelerated recovery of gynecological malignant tumors, and achieved good results. For example, Ye Xianrui dexmedetomidine can inhibit stress and has a slight effect on the respiratory system, but its analgesic effect is weaker than that of opioids, which have stronger analgesic effect but often experience respiratory depression [2]. Eisenach believes that goal-directed fluid therapy via the ERAS pathway is easier to implement without routine fasting and mechanical bowel preparation in patients using the ERAS pathway [3]. At present, scholars at home and abroad have carried out a lot of research in the field of accelerated rehabilitation of gynecological malignant tumors, and these previous theoretical and experimental results provide the theoretical basis for the research of this paper.

This article is based on the clinical observation and comparative analysis of butorphanol, dezocine and dexmedetomidine, combined with the research and analysis in the field of accelerated recovery of gynecological malignant tumors, and through a series of experiments to prove that butorphanol,

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dezocine and dexmedetomidine Dexmedetomidine has certain feasibility in the field of accelerated rehabilitation of gynecological malignant tumors. In order to improve the comfort of patients with gynecological malignant tumors and accelerate the rapid recovery of patients after surgery, our research group has studied butorphanol, dizo the analgesic effect of Xin and dexmedetomidine combined with different nerve block methods provides a new idea for the accelerated recovery of patients with gynecological malignant tumors.

2. Related Theoretical Overview and Research

2.1 Factor Analysis of Butorphanol, Dezocine and Dexmedetomidine

Factor analysis is a further extension on the basis of principal component analysis. The observed variables are grouped according to their correlation, and the concept of common factor is introduced to summarize the properties of each group, so as to achieve the purpose of dimensionality reduction.

(1) Exploratory factor analysis

The researchers used exploratory factor analysis to study TCM syndromes in these patients. Using principal component analysis, the researchers extracted 12 common factors from four TCM diagnostic information of maintenance hemodialysis patients, and calculated factors based on these 12 common factors. Rotate to get the element fee table [4-5]. Finally, according to the factor analysis results combined with professional knowledge, the corresponding diagnostic syndrome data, disease syndrome data and bad disease syndrome data, as well as several types of TCM syndrome data, such as deficiency syndrome, positive data, and deficiency and excess are obtained as a preliminary summary to provide clinical syndrome differentiation in accordance with.

(2) Confirmatory factor analysis

Based on specialized theory or prior knowledge, researchers can make general assumptions about the number of factors or the structural relationship between factors and use factor analysis to test established statistical hypotheses. Factor analysis is now called confirmation. The combination of the two in practical applications can make the research more in-depth and convincing [6]. Relevant scholars used exploratory factor analysis to determine the TCM heart attack syndrome model and revised it, and then used confirmatory factor analysis to match the standard syndrome model. It is important to note that exploratory factor analysis and confirmatory factor analysis factor analysis requires separate studies using two independent databases.

(3) Structural equation model

Structural equation modeling is a method of evaluating and testing relationships between multiple variables and multiple outcomes by creating equation models. The basic principle is to introduce the concept of latent variables on the basis of factor analysis, and use the form of path analysis to verify the correlation between variables. The diagnosis of TCM syndromes is based on the information of the four diagnostics, which can be considered as important variables. Using expert experience and prior factor analysis, researchers first constructed a structural equation model of traditional Chinese chronic atrophic gastritis syndrome. After evaluating the model adaptation index, the model was acceptable [7-8]. Finally, four latent variables were extracted, and each latent variable was associated with the corresponding clinical information of the manifest variable. In addition, the four latent variables were all correlated with an independent variable, indicating that the independent variable is an important feature of chronic atrophic gastritis.

2.2 Correlation Analysis between Gynecological Malignancies and Enhanced Recovery

Intensive rehabilitation is based on evidence-based medicine and aims to reduce physical and psychological traumatic stress responses in surgical patients. Through clinical surgery, anesthesiology, nursing, nutrition and other multidisciplinary collaboration, optimize the perioperative clinical process. It can reduce the stress response of patients during the perioperative period, reduce the occurrence of postoperative complications, shorten the hospitalization time, and promote faster recovery of patients. Patient care at the center is at the heart of rapid recovery. Initially, fast recovery came from fast recovery [9]. It was proposed in the early 1990s by researchers in California and applied to heart surgery patients; it was later adopted by Hartford Hospital and Best Medical Center. Several measures have been successfully implemented for surgical patients under this concept.

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In 2001, Europe established the Enhanced Recovery Research Group, which first proposed the concept of enhanced recovery. Thus, the name of rapid recovery officially appeared. Remarkable achievements in the fields of medicine and pediatrics [10]. The strategies of implementing enhanced clinical rehabilitation pathways in various fields have their own characteristics, but the general principles are basically the same. FTS is mainly divided into three stages: preoperative, intraoperative, and postoperative, requiring multi-professional cooperation. Surgery and anesthesiologists also need nurses, with the cooperation of patients and their families, the measures mainly include: preoperative preparation, appropriate anesthesia methods and appropriate intraoperative surgical methods, and postoperative analgesia. The optimal combination of these measures can maximize the prognosis of surgical patients, and the optimal treatment measures can accelerate patients' postoperative recovery, reduce the frequency of complications, and minimize patients' organ damage and stress response.

In recent years, the concept of rapid surgical rehabilitation has developed rapidly and has been paid more and more attention by clinicians. There are more and more studies on the application of the concept of fast recovery surgery in clinical surgery [11-12]. Relevant researchers have a good understanding of the concept of fast recovery surgery in Europe and the United States in gynecological benign and malignant aspects, systematically evaluated the implementation status and future development prospects, and systematically evaluated the effectiveness and safety of fast recovery surgery concept in gynecological malignant tumor surgery. Provide a basis for exploring the best perioperative treatment plan.

3. Experiment and Research

3.1 Experimental Method

Statistical software was used to analyze the experimental data. If the measurement data conforms to the normal distribution, it is expressed as the mean ± standard deviation, and the comparison within the group uses the repeated measures analysis of variance, and its calculation formula:

$$f(x) = \frac{1}{\sqrt{2\pi}\ \sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}} \tag{1}$$

$$p\{\mu - h < X \le \mu\} = p\{\mu < X \le \mu + h\} \tag{2}$$

In the formula, the farther x is from μ, the smaller the value of f(x) is, which means that for an interval of the same length, when the interval is farther away from μ, the probability of X falling on this interval is smaller. Where μ and σ (σ>0) are constants, then X is said to obey a normal distribution with parameters μ, σ.

3.2 Experimental Requirements

Based on the clinical observation and comparative analysis of butorphanol, dezocine and dexmedetomidine, combined with the research and analysis in the field of accelerated recovery of gynecological malignant tumors, the experiment divided 400 patients into eight groups, of which four groups received butorphine Connaught 2mg and dexmedetomidine 0.5μg, and the other four groups were treated with dezocine 10 mg and dexmedetomidine 0.5μg. The data of the wake-up period of patients were collected, and the infusion and extubation time of patients with gynecological malignant tumors were analyzed. Collected data for systematic analysis.

4. Analysis and Discussion

4.1 Analysis of Heart Rate Wake-Up Period in Four Groups of Gynecological Malignant Tumor Patients during Treatment

The 400 patients were divided into eight groups, four of which received butorphanol 2 mg and dexmedetomidine 0.5 μg, and the other four groups received dezocine 10 mg and dexmedetomidine 0.5 μg, and the patient rate wake-up period data were collected. , the experimental results are shown below.

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Table 1: Analysis of the application of VR technology in classroom teaching

Group	Butorphanol Dexmedetomidine (min)	Dezocine Dexmedetomidine (min)
A	68.82	71.23
B	74.47	79.63
C	77.59	80.36
D	81.62	84.63

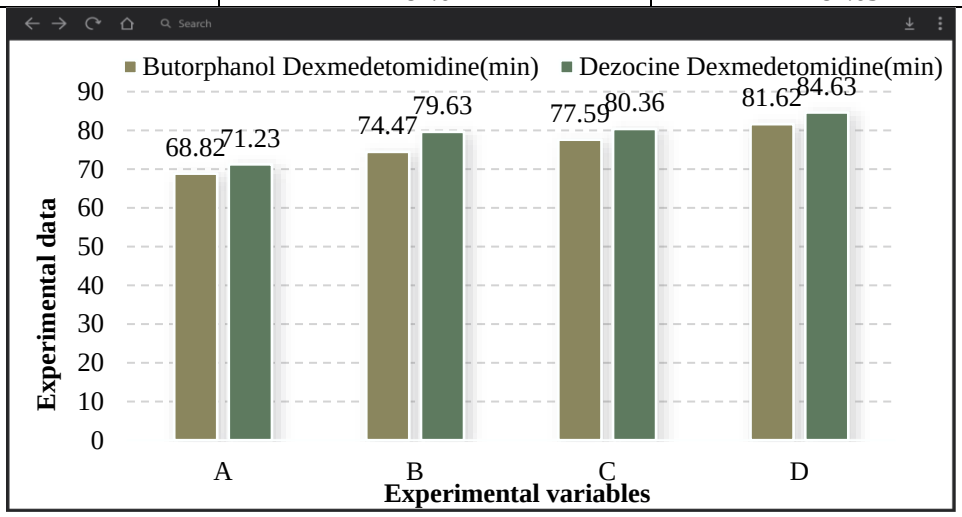

Figure 1: Analysis of heart rate wake-up period of four groups of patients during treatment

As can be seen from Figure 1 and Table 1, the heart rate wake-up period of patients who used butorphanol 2mg and dexmedetomidine 0.5μg was shorter than that of dezocine 10mg and dexmedetomidine 0.5μg. The wake-up period was 68.82 minutes and 71.23 minutes, respectively. The heart rate wake-up period of group B was 74.47 minutes and 79.63 minutes, respectively. The heart rate wake-up period of group C was 77.59 minutes and 80.36 minutes, respectively. The heart rate wake-up period of group A was At 81.62 minutes and 84.63 minutes, the use of butorphanol 2mg and dexmedetomidine 0.5μg had a certain effect on accelerating the recovery of patients with gynecological malignant tumors.

4.2 Analysis of Infusion and Recovery Time in Patients with Gynecological Malignant Tumors

Through the analysis of the heart rate wake-up period of four groups of gynecological malignant tumor patients during treatment, butorphanol 2mg and dexmedetomidine 0.5μg have a certain effect on accelerating the recovery of gynecological malignant tumor patients. Tube time analysis, the experimental data is shown in the following figure.

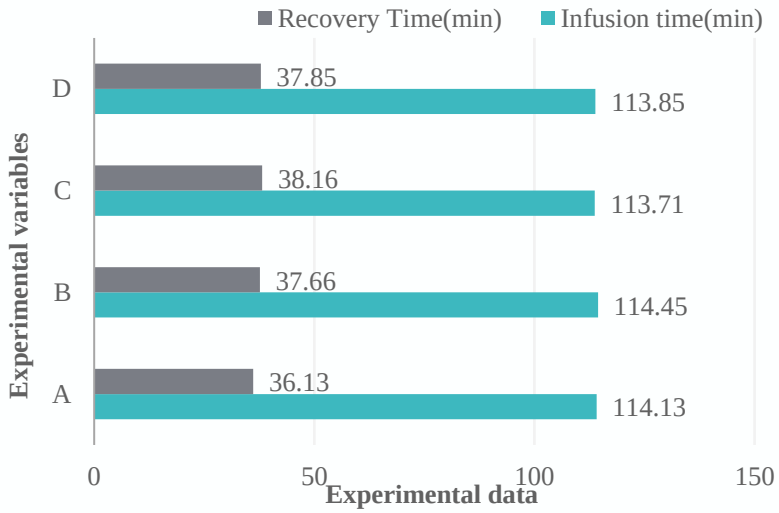

Figure 2: Analysis of infusion and recovery time in patients with gynecological malignant tumors

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As shown in Figure 2, butorphanol 2mg and dexmedetomidine 0.5μg have a certain effect on accelerating the recovery of patients with gynecological malignant tumors. The infusion time of group A was 114.13 minutes, the recovery time was 36.13 minutes, and the infusion time of group B was 114.45 minutes, the recovery time was 37.66 minutes, the infusion time in group C was 113.71 minutes, the recovery time was 38.16 minutes, the infusion time in group D was 113.85 minutes, and the recovery time was 37.85 minutes. The time is around 114 minutes and 36 minutes.

5. Conclusions

This article is based on the clinical observation and comparative analysis of butorphanol, dezocine and dexmedetomidine, combined with the research and analysis in the field of accelerated recovery of gynecological malignant tumors, and through a series of experiments to prove that butorphanol, dezocine and dexmedetomidine Dexmedetomidine has a certain feasibility in the field of accelerated rehabilitation of gynecological malignant tumors. According to the analysis of the heart rate wake-up period of four groups of gynecological malignant tumor patients during treatment and the experimental data of infusion and recovery time analysis of gynecological malignant tumor patients, it can be seen that the Patients receiving butorphanol 2 mg and dexmedetomidine 0.5 μg had less heart rate wake-up time than dezocine 10 mg and dexmedetomidine 0.5 μg, butorphanol 2 mg and dexmedetomidine 0.5 μg It has a certain effect on accelerating the recovery of patients with gynecological malignant tumors, and the infusion and recovery time of patients with gynecological malignant tumors is about 114 minutes and 36 minutes. Gynecological malignant tumor surgery pain can increase the body's stress, increase the occurrence of postoperative respiratory and other complications, seriously endanger the patient's physical and mental health, and satisfy the analgesic effect, which is conducive to the establishment of a good doctor-patient relationship and accelerates the patient's recovery. , with good social benefits.

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