General Anesthesia Combined with Epidural Anesthesia on the Peripheral Blood T Cell Subsets and the Quality of Postoperative Recovery in Patients with Cervical Cancer

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Worldwide, cervical cancer is the fourth most common cancer among women. According to research, more than 520,000 people are diagnosed with cervical cancer each year, and more than 260,000 patients die of cervical cancer, of which poor areas in developing countries account for the majority. In recent years, the incidence of cervical cancer has gradually increased and tends to be younger. This article aims to study the effect of general anesthesia combined with epidural anesthesia on the peripheral blood T cell subsets and the quality of postoperative recovery in patients with cervical cancer. This article presents the concepts of blood glucose and blood lactic acid, and explains the effects of general anesthesia combined with epidural anesthesia on blood glucose and blood lactic acid. During the experiment, the experimental objects are grouped, and the experimental data is observed by the controlled variable method during the experiment. The experimental results in this article show that general anesthesia combined with epidural anesthesia has a smaller effect on the activity of peripheral blood T cell subsets and the quality of recovery in patients with cervical cancer. Patients in group I only need about 20 minutes to wake up, while patients in group II need 25 minutes time around indicates that general anesthesia combined with epidural anesthesia during the operation is more helpful to the patient's postoperative recovery.

Keywords: General Anesthesia Combined with Epidural Anesthesia, Cervical Cancer Patients, Peripheral Blood T Cell Subsets, Recovery Quality, Influencing Factors
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Cervical cancer is the most common gynecological malignant tumor in clinic, which seriously threatens the life and health of women. Its incidence is only lower than that of breast cancer. At present, in some developing and developed countries, the morbidity rate is still the highest, and the mortality rate is the highest among malignant tumors. According to the latest data from the International Agency for Research on Cancer (IARC), there are 522,800 new cases of cervical cancer each year in the world, 80% of which come from developing countries. Among the most common malignant tumors in women, the mortality rate of cervical cancer is the second and fourth. The prognosis of cervical cancer is closely related to the risk factors after surgery. Identifying risk factors plays an important role in prognosis. In the past 50 years, cervical cancer screening has been carried out in China, which has greatly reduced the incidence and mortality of cervical cancer. However, in some areas, cervical cancer is caused by an increasing number of human papillomavirus infections caused by the trend.

Surgery is currently the preferred treatment for cervical cancer. Surgical treatment of cervical cancer has a long development period. At the beginning of the last century, hysterectomy and lymph node resection were performed, which is called cervical cancer. Soon, this surgical method will be widely used worldwide. We have realized that patients undergoing radical resection of cervical cancer should undergo extensive hysterectomy and pelvic lymph node dissection. Due to the complex anatomy of the female pelvis, various operations and long-term exposure to organs, patients often have complications after surgery, such as urinary tract infections, urinary tract infections, abdominal infections, inferior vein thrombosis, lymph nodes, constipation, etc., which are seriously affected Recovery after treatment. The development and treatment of cervical cancer have caused serious physical and psychological trauma to patients, and the development of complications also brings other difficulties to patients. However, the patient's peripheral T cell subsets and the quality of postoperative recovery are one of them. Therefore, the formulation and implementation of the overall plan to promote the rehabilitation of patients with cervical cancer, improve the quality of life and promote the rehabilitation of patients is now being paid more attention by the clinical research institute of gynecology.

The choice of anesthesia should be based on neurological conditions and obstetric recommendations. After reviewing the literature related to pregnant women with VP shunt, Dousei T found that both local anesthesia and general anesthesia have been used. Preoperative abdominal X-ray examination showed that the VP shunt was located on the surface of the uterus. Taking into account the expected time required for the delivery of the baby, CSEA was chosen instead of general anesthesia, but this method has certain risks [1]. The comparison of general anesthesia with epidural anesthesia (GEN-EPI) and general anesthesia (GEN) for large-scale abdominal surgery results is ambiguous. However, many people think that patients anesthetized with GEN-EPI are better than GEN. This study by Handley G tested the following hypothesis: GEN-EPI has good recovery characteristics compared to GEN after abdominal surgery. A prospective randomized double-blind trial was conducted, which consisted of 30 patients aged 18-74 who underwent abdominal surgery. The disadvantage is that the viewpoints put forward by this research have not been proved in practice [2]. This study by Pei S selected 76 critically ill patients with indications for tumor resection, and randomly divided the patients into a control group and an observation group. Different anesthesia and analgesia methods were used to assess the immune system function and serum levels of critically ill patients after tumor resection. The effect of tumor index level was studied. The control group received general anesthesia and postoperative intravenous anesthesia, and the observation group received general anesthesia, analgesia and postoperative analgesia. This research has a certain degree of reference value for this article. However, it would be better if the patient's sleep condition after surgery can be taken into account on the basis of the research [3].

The innovation of this article is (1) The general anesthesia combined with epidural anesthesia and general anesthesia is compared with the perioperative stress level of patients with cervical cancer, and the method of rational selection of anesthesia during clinical anesthesia will be explored. (2) Find an anesthesia method that can effectively regulate the adverse reactions of peripheral blood T cell subsets and the quality of postoperative recovery in patients with cervical cancer, and provide a theoretical basis for choosing appropriate clinical anesthesia methods.

THE EFFECT OF GENERAL ANESTHESIA COMBINED WITH EPIDURAL ANESTHESIA ON THE PERIPHERAL BLOOD T CELL SUBSETS AND THE QUALITY OF POSTOPERATIVE RECOVERY IN PATIENTS WITH CERVICAL CANCER

Blood Sugar

Significance of blood glucose monitoring

Blood glucose is the substrate of energy metabolism. After activating various levels of hormones, most of the human blood sugar changes are affected by the hypothalamus-pituitary-adrenal cortex (HPA axis), and the adrenal medulla (SAM) is affected by insulin and pancreatic hypertension glucagon control [4-5]. During the stress response of the human body, insulin resistance (IR) will increase, while the number of receptors for glucocorticoids, growth hormone and glucagon will decrease. Under autonomous regulation under

stress, it is mediated by the adrenal system and increases the secretion of glucagon. Relative to the degree of trauma, blood glucose levels increased significantly [6]. The resistance between the catabolism of tissue cells and the continuous progress of anabolic signals is one of the main manifestations of the stress response in critical illness [7-8]. When the body is unable to use other energy substrates under stress, an adaptive response to insulin resistance occurs under the regulation of multiple hormones. The secretion of glucocorticoids, growth hormone, glucagon, etc. increases, while the secretion of insulin decreases. As a result, glycogen decomposition in the liver cannot be inhibited. When gluconeogenesis increases significantly, the blood sugar level rises and the kidney glucose level exceeds, then diabetes called diabetes or stress hyperglycemia develops [9-10]. When a patient suffers from extensive burns or severe trauma, the increase in blood glucose concentration can last for several weeks, which is called traumatic diabetes [11]. The damage to the body caused by high blood sugar may be mainly due to the insulin resistance caused by high blood sugar and the damage of pancreatic β-cell function, which leads to nutritional support disorders in the body; in addition, it may also be related to the rapid increase in the release of inflammatory factors in the circulatory system caused by high blood sugar [12-13].

The effect of general anesthesia combined with epidural anesthesia on blood sugar

Epidural anesthesia can block the ACTH fibers in the sympathetic ganglia, inhibit harmful stimuli at the surgical site, reduce the secretion of catecholamines in the body, and thereby reduce the activation of cAMP cell membranes and glycogen [14-15]. On the other hand, by inhibiting the harmful stimulation of the stimulating effect of the hypothalamus-pituitary-adrenocorticotropic axis at the surgical site, it can reduce the secretion of ACTH and cortisol in the body and lead to increased volume and increased resistance of blood vessels [16]. It reduces the front and back load of the heart, reduces the load of the heart, restores blood volume, maintains the stability of blood pressure, and promotes the systemic circulation of metabolites in the body [17].

Blood Lactic Acid

Significance of blood lactate monitoring

Lactic acid is an important end product of glycolysis. Under sufficient oxygen supply conditions, intramuscular lactic acid is oxidized to pyruvate, and pyruvate participates in the tricarboxylic acid cycle [18-19]. There are two main methods of metabolism. Renal excretion or lactate dehydrogenase reversibly produces pyruvate [20]. The normal concentration of lactic acid in the blood is 1.0-5 mmol/L [21]. Since lactic acid is the product of acute hypoxia in the body, it may reflect the degree of short-term tissue hypoxia. The higher the level of lactic acid in the blood, the more likely it is to cause circulatory diseases. The level of lactic acid in the blood is as follows [22-23]. It can be used as a sensitive biochemical indicator for the early diffusion of bad tissues and lack of oxygen supply, and it can also be used as a relatively independent monitoring indicator for the diagnosis of serious diseases. It can show the severity of the disease and objectively determine its prognosis [24]. Severe stress in the body can lead to hypercatecholamineemia, which is mainly manifested by a large number of catecholamines binding to receptors on the muscle cell membrane to activate sodium ions, potassium ions, and ATPase on the cell membrane to hydrolyze ATP into ADP, and intracellular NADH/NAD+ The increase in the ratio promotes glycolysis, causes an increase in blood lactic acid, and leads to hyperlactic acidemia [25]. In severe shock patients, because the adrenergic receptors are in a state of insensitivity, high levels of catecholamines in the blood will significantly reduce the reactivity of tissues and cells in the body, which will lead to decreased heart function, lower blood pressure, insufficient tissue diffusion, and lead to cells Abnormal metabolism, resulting in irritant hyperglycemia and insulin resistance [26-27].

The effect of general anesthesia combined with epidural anesthesia on blood lactic acid

Most organs of the body can secrete and ingest lactic acid at the same time. The net amount of lactic acid in the body depends on the difference between its secretion and ingestion. When in a stable state, the brain, muscles and digestive tract can produce lactic acid, which is mainly due to the liver and The composition and metabolism of the kidney [28]; studies have shown that stress-induced blood sugar and lactose levels are the severity of the

disease, and blood sugar and lactic acid levels are also very serious [29]; the choice of anesthesia technique can effectively reduce insulin resistance during surgery And reduce stress and complications [30].

GENERAL ANESTHESIA COMBINED WITH EPIDURAL ANESTHESIA ON THE PERIPHERAL BLOOD T CELL SUBSETS AND THE QUALITY OF POSTOPERATIVE RECOVERY IN PATIENTS WITH CERVICAL CANCER

Subjects

The age of 60 patients undergoing elective surgery for cervical cancer in this group was 45-68 years old, weight was 52-87 kg, and ASA was grade I to II. Among them, the patients had no history of hypertension, and their blood pressure was maintained at 120-130/80 after medical treatment. -85mmHg. The results of various routine preoperative examinations and heart, lung, liver and kidney functional examinations of this group of patients were not found to be abnormal, and there was no endocrine or neuropsychiatric disease.

Intervention Measures

In order to relieve the nervousness of the patients and reduce the stress response during epidural puncture catheterization, after the two groups of patients entered the operating room and opened the intravenous channel, the preloaded dose of dexmedetomidine hydrochloride injection was 0.4 ug/kg intravenously (10 minutes after injection). In group I, lidocaine was used to place the T9-T10 epidural puncture tube under local anesthesia. After successful puncture, place the tube on the shaft 3-5 cm. After placing the tube, 3 ml of 1% lidocaine was given. Infuse epidural and observe for 5 minutes. After the side effects disappeared, such as general spinal anesthesia, ropivacaine was administered 0.33% using a continuous epidural pump 6-8 ml/h (all patients were evaluated by the same anesthesiologist for pre-anaesthesia and anesthesia operations).

Experimental Process

This group of patients was randomly divided into two groups, each group containing 30 patients. There was no significant difference in age or weight between the two groups, and they were similar. Patients in group I received intermittent general anesthesia plus epidural lidocaine (patients in group I have no contraindications to epidural block), and patients in group II received intravenous injections of propofol and remifentanil. Before surgery, patients should fast for 30 minutes before surgery and inject 0.1 mg barbiturate sodium and 0.01 mg/kg atropine. After entering the operating room, check your heart rate, blood pressure, blood oxygen saturation and ECG. Open the venous channel of the upper extremity, and input the standard solution 20 ml/kg/h, the crystals in the liquid: glue = 3:1. The first group of patients were placed in the right decubitus position, regularly disinfected, L1-2 intervertebral space was selected, and an 18G epidural needle was used for epidural puncture. After the puncture was successful, it was confirmed that he had entered the epidural space. Place a 3.5 cm cranial epidural catheter and place the patient in a supine position. Inject 5 ml of 1.6% lidocaine into the epidural. After 5 minutes, the general anesthesia of the spine is removed. Use acupuncture to test your anesthesia level. After measuring the level of anesthesia, start anesthesia. Midazolam 0.04 mg/kg, fentanyl 2-3μg/kg, propofol 1.5-2 mg/kg, atracurium 0.5-0.6 mg/kg, inflated with a mask for 5 minutes, after the jaw relaxes, insert the mask into the mouth into the double-cavity neck. Choose the appropriate one according to the weight of the patient. For the laryngeal mask model, vent air into the cup before placing the laryngeal mask, apply four times the gel on the tips on both sides of the laryngeal mask, and then place them in order. This is a sense of resistance in the lower part of the pharynx. After inflating 5-10ml and checking for leaks, connect the anesthesia machine to mechanically control breathing and adjust the breathing volume to 8-10ml/kg (breathing rate). Up to 12 beats per minute, the ratio of inhalation to exhalation is 1:2, and the partial pressure of CO 2 (ETCO 2) at the end of exhalation is maintained at 35-45 mmHg. Use a microinjection pump to continuously inject propofol 0.06-0.10 mg/(kg.min) and remifentanil 0.3-0.6ug/(kg.min) into the patient, and inject them regularly during the operation. Adjust the injection speed of the intravenous anesthetic according to the change of the patient's blood pressure, and use the Bp and HR of the patient before anesthesia as the baseline value. If the baseline value is greater than 20%, vasoactive agents are used. In the first group of

patients, after the first epidural injection, 1.5% lidocaine (0.1 ml/kg) was injected at a steady flow every 40 minutes. After the administration of group, I patients, 8 patients had a significant drop in blood pressure. They received 10 mg of ephedrine intravenously to maintain their vital signs until the end of the operation. General anesthesia was performed for patients in group II, and the induction method of general anesthesia was the same as that of patients in group I. Use a micro infusion pump to continuously pump propofol 0.06-0.10mg/(kg.min), remifentanil 0.3-0.6ug/(kg.min), and intermittently inject atracuramide during the operation, Intermittent inhalation of isoflurane to maintain his vital signs until the end of the operation. After the operation, 10 mg of furosemide was given intravenously as needed to prevent pulmonary edema. At the end of the operation, morphine 2mg (2mg/5ml saline) was given epidurally for patients in group I for postoperative analgesia. Dezocine was given intravenously for postoperative analgesia in group II patients. During the operation, when the patient's blood loss is less than 1000ml, the same amount of 6% Hess is used to supplement, and when the blood loss is more than 1000ml, allogeneic blood is transfused [31].

EXPERIMENTAL ANALYSIS OF THE EFFECT OF GENERAL ANESTHESIA COMBINED WITH EPIDURAL ANESTHESIA ON THE PERIPHERAL BLOOD T CELL SUBSETS AND THE QUALITY OF POSTOPERATIVE RECOVERY IN PATIENTS WITH CERVICAL CANCER

General Situation of the Two Groups of Patients

The ASA classification, age, body mass index (BMI), operation time, blood loss and other general conditions of the two groups were compared. The comparative data is shown in Table 1.

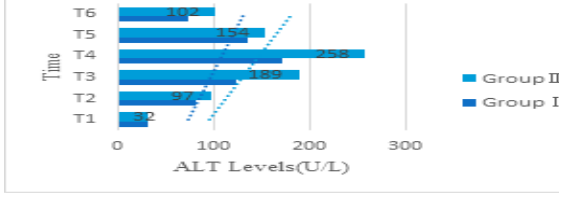
Table 1.
Comparison of the general conditions of the two groups of patients

Group	GroupI	GroupII
ASA scale (Class I/II)	17/13	16/14
Age	45-65	46-68
BMI	22.5±1.8	22.3±1.7
Operative time(min)	252±52	267±49
Bleeding volume(ml)	299±95	293±94

Comparison of ALT and AST between the Two Groups of Patients at Different Time Points

There was no significant difference in serum ALT and AST indexes between the two groups of patients at T1; the ALT and AST indexes in the serum of the two groups of patients increased at T2 ~T6, and the difference was statistically significant compared to T1, and reached at T4. Peak; at T 2 ~ T 6, although the trends of serum ALT and AST indicators in group I were similar to those in group II, the serum ALT and AST indicators in group I were lower than those in group II at the same time, and ALT was at each time The difference between the two groups of patients is shown in Figure 1.

Figure 1.
ALT at each time point in the two groups



The difference between the two groups of patients in each time period of AST is shown in Figure 2.

Figure 3.
Comparison of serum MDA in the two groups of patients

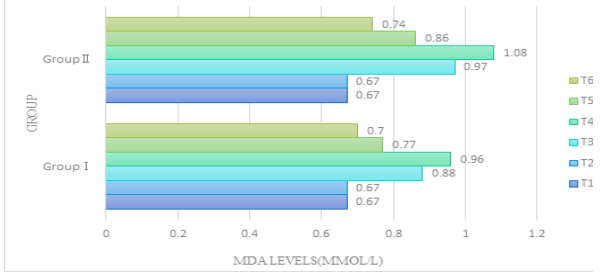
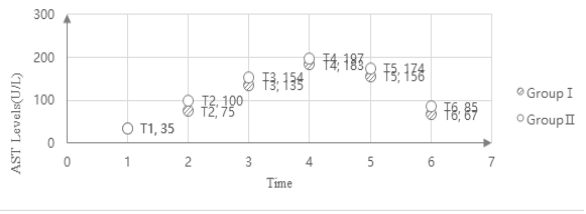


Figure 2.
AST at each time point in the two groups

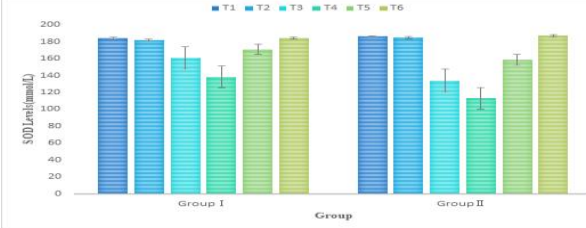


Comparison of Serum MDA and SOD in the Two Groups of Patients

At T1 and T2, there was no significant difference in serum MDA and SOD indicators between the two groups of patients; at T3~T5, the serum MDA indicators of the two groups increased compared with T1 and T2; at T3~T5, although the increasing trend of serum MDA indexes in group I patients was similar to that in group II, but the serum MDA indexes in group I patients were lower than those in group II at the same period. At T6, the serum MDA indexes in the two groups dropped to the levels of T1 and T2; At T3~T5, the serum SOD index of the two groups of patients decreased compared with T1 and T2; at T3~T5, although the trend of the decline in serum SOD index of group I patients was similar to that of group II, the serum SOD index of patients in group I decreased The SOD index was higher than that in the GA group during the same period. At T6, the SOD index in the serum of the two groups of patients returned to the level of T1 and T2. The comparison of the MDA in the serum of the two groups is shown in Figure 3.

The comparison of SOD in the serum of the two groups of patients is shown in Figure 4:

Figure 4.
Comparison of serum SOD in the two groups of patients



The Effect of General Anesthesia Combined with Epidural Anesthesia on the Patient's Peripheral Blood T Cell Subsets and the Quality of Recovery

After the experiment, the peripheral blood T cell subsets and recovery quality of the two groups of patients were observed. It can be found that the number of peripheral blood T cell subsets in group I patients was significantly higher than that in group II patients.In addition, when monitoring the recovery quality of the two groups of patients, the recovery quality of the patients in group I through general anesthesia combined with epidural anesthesia was significantly higher than that of the patients in group II. The recovery time of the two groups of patients after surgery is shown in Table 2.

Table 2.
The recovery time of the two groups of patients after surgery

Group	Wake up time
Group I	20.7±5.4
Group II	27.8±4.9

CONCLUSIONS

Patients undergoing radical resection of cervical cancer are seriously injured because they must undergo extensive resection of both the uterus and pelvic lymph nodes. The application of epidural catheters to relieve postoperative pain is effective with few complications. The combination of general anesthesia and epidural anesthesia is increasingly used in clinical anesthesia. The experimental results show that compared with simple general anesthesia, general anesthesia combined with epidural anesthesia has an effect on the activity of peripheral blood T cell subsets. It has little effect on the quality of cervical cancer and awake patients, and helps patients recover after surgery. For patients undergoing large-scale total hysterectomy, a combination of epidural anesthesia and general intravenous anesthesia can be used. Compared with simple general intravenous anesthesia, it has the advantage of reducing perioperative pressure levels. The combination of epidural anesthesia and general intravenous anesthesia is beneficial. -Anesthesia effect, decreased blood glucose and lactic acid levels during surgery and decreased VAS scores after surgery. However, the combination of general anesthesia and epidural anesthesia also has the following shortcomings:

After epidural anesthesia, peripheral blood vessel dilation will reduce peripheral resistance and blood return, resulting in hypotension.Transition after surgery, epidural administration may increase the difficulty of management.

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