

Analysis of pharmacological adverse reactions of western medicines

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Objective: To analyze the pharmacological adverse reactions from clinical western medicines applications, providing guidance to strengthen the western medication safety. **Method:** A retrospective analysis was conducted to study the case data of 58 patients who had adverse reactions during the western medicines treatment from September 2015 to March 2016 in our hospital. **Results:** The results showed that the most common medication route of adverse reactions was intravenous drip and infusion. The incidence of adverse reactions was mainly in skin and accessories, and the main adverse reactions were scalp rash, swelling, scaling, etc. The main western medicines which could lead to adverse reactions were antibiotics, digestives, endocrines, etc. **Conclusion:** There are many kinds of western medicines and the combination of different pharmacological drugs can produce adverse reactions. Therefore, clinicians should strengthen the mastery of the pharmacological properties of western medicines and rationally use the drug according to the actual situation of patients, improve the safety of medication and reduce the occurrence of adverse reactions.

Key words: Western medicines; Pharmacology; Adverse reactions; Clinical manifestations

INTRODUCTION

Pharmacology itself is a high-degree summarization of the core and fundamentals of medicine, its content is specific, and in-depth application and research can be carried out only with clear category and content of the western medicines. The application of western medicines is relatively common in daily life, at present, many patients will choose western medicines in disease treatment, but western medicines might endanger the human body, even causing other diseases or accelerating the aging of human body. In the treatment of human diseases, western medicines themselves have limitations such as possible adverse reactions. The common administration mode of western doctors is using clinical prescription drugs, with a wide range of drugs and combined utilization to enhance the treatment effect [1]. But there are taboos in the application methods and pharmacological properties of different drugs, if the physician lacks adequate understanding of the physical and chemical properties of the prescription drug, it is easy to lead to irrational medication, resulting in the occurrence of adverse reactions in patients [2]. Therefore, the analysis of patients adverse reactions in using western medicines and promotion of the rationality of clinical medication of western medicines have become the focus of attention at this stage of clinical medication. In this paper, the reports and clinical data of 58 patients who had adverse reactions during the western medicines treatment in our hospital were reviewed and summarized in order to provide experience

guidance for rational clinical application.

MATERIALS AND METHODS

General information

The case data and adverse reaction reports of 58 patients who had adverse reactions during the western medicines treatment from September 2015 to March 2016 in our hospital were selected as the study object, including 32 males and 26 females, aged 8 to 72 years old, mean age of 46.2 ± 5.4 years old.

Methods

A retrospective analysis including the patients' age, gender, adverse reaction symptoms, the type of drug used, the causes and treatment of adverse reactions, etc. [3] of the selected patients was conducted, and statistical analysis of the results obtained was made by using Excel.

RESULTS

Analysis of the routes of administration of western medicines causing adverse reactions

At present, the common clinical western medicines administration routes include intravenous drip, intravenous injection, intramuscular injection, oral administration, etc. The main routes of administration and incidence of adverse reactions in this group were: 2 cases of intramuscular injection, accounting for 3.45%; 8 cases of intravenous injection, accounting for 13.79%; 42 cases of intravenous drip, accounting for 72.41%, 6 cases of oral administration, accounting for 10.35% (Table 1). It was concluded that intravenous drip was the most effective way to induce adverse reactions of western medicines, and intramuscular injection,

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intravenous injection and oral administration can also lead to adverse reactions.

Table 1. Administration routes of patients with adverse reactions

Administration route	Number of cases (%)
Intramuscular injection	2 (3.45)
Intravenous injection	8 (13.79)
Intravenous drip	42 (72.41)
Oral administration	6 (10.35)

Main occurring parts and clinical manifestations of patients with adverse reactions

Through the analysis of clinical data of this group of patients, we can learn that patients have varying degrees of clinical symptoms. As shown in Table 2, the main parts of patients with adverse reactions of western medicines were skin and accessories, accounting for 56.89%, mainly skin ulceration, rash, scaling, swelling, itching, etc., followed by nervous system and digestive system, accounting for 15.52% and 13.79%, respectively, with main clinical manifestations of headache, insomnia, confusion, loss of appetite, vomiting, diarrhea, abdominal distension, etc. Other adverse reactions occurred in the respiratory system (6.90%), cardiovascular system (5.17%) and urinary system (1.73%). There are also some patients having adverse reactions in different parts concurrently. The reasons for adverse reactions include combined application of western medicines, improper use, improper dose, repeated drug use, pharmacological antagonism, etc.

Main medication types of patients with adverse reactions of western medicines

Table 2. Main occurring parts and clinical manifestations of patients with adverse reactions (%)

Parts	Number of cases and percentage	Clinical manifestations
Skin and accessories	33 (56.89)	Skin necrosis, mucosal ulceration, rash, suppurative blisters, scaling, swelling, itching, etc.
Nervous system	9 (15.52)	Excessive excitement, lethargy, limb twitching, insomnia, confusion, hand tremor, fatigue, chills, dizziness, headache, body temperature rise, etc.
Digestive system	8 (13.79)	Loss of appetite, nausea, vomiting, abdominal distension, diarrhea, abdominal pain, etc.
Respiratory system	4 (6.90)	Cough, dry throat, breathing difficulties, shortness of breath, voice crack, etc.
Cardiovascular system	3 (5.17)	Palpitation, chest tightness, arrhythmia, tachycardia, etc.
Urinary system	1 (1.73)	Dysuria, oliguria, hematuria, etc.

Table 3. Main medication types of patients with adverse reactions of western medicines

Types of medication	Number of cases (%)
Antibiotics	16 (27.59)
Digestive system drugs	11 (18.97)
Nervous system drugs	9 (15.52)
Cancer drugs	7 (12.07)
Respiratory system drugs	6 (10.34)
Immune system drugs	4 (6.89)
Blood system drugs	3 (5.17)
Other types of drug	2 (3.45)

The study showed that, in this group of patients, there were 16 cases where adverse reactions occurred due to the use of antibiotics, accounting for 27.59%; 11 cases and 9 cases due to the use of digestive system drugs and nervous system drugs, accounting for 18.97% and 15.52%; there were also 7 cases of cancer drugs, 6 cases of respiratory drugs, 4 cases of immune system drugs, 3 cases of blood system drugs and 2 cases of other types of drug, see Table 3 below.

Treatment of patients with adverse reactions of western medicines

58 patients in this group with adverse drug reactions were basically cured after effective symptomatic treatment, in which 2 patients with severe adverse reactions improved after treatment, the overall cure rate was 96.55%. Antibiotics have the highest incidence of adverse reactions, so hospitals should make strict regulations on the use of antibiotics to reduce the incidence of adverse reactions, and intravenous drip can also lead to a higher incidence of adverse reactions, so this type of administration should be attached with enough attention! In addition, by observing the clinical symptoms of patients with adverse reactions, allergic reactions are related to the patient's physical condition, drugs and other factors, so the various types of adverse reactions in patients disappeared or decreased after drug withdrawal, sufficient attention should also be paid in re-medication, so as to avoid serious consequences resulting from individual differences.

DISCUSSION

Drugs are one of the commonly used methods of clinical disease treatment. The scientificity of medication, prognosis and the rationality of treatment effect directly affect the prognosis and treatment effect of patients. In order to effectively reduce the patient's clinical treatment time while effectively ensuring the treatment effect, clinicians will also take a combination of western medicines for the treatment of the disease. From the perspective of clinical treatment, it is the main purpose to carry out combined therapy through the mechanisms of different western medicines to achieve an improvement of curative effect [4]. However, due to the wide variety of western medicines, the pharmacological response between different drugs is uncertain, and with the increasing incidence of adverse reactions of western medicines in recent years, how to ensure the rationality of drug use is still the focus of medical science.

Theoretical system and connotation of western medicines

The main idea of the medical profession at the present stage is to understand that though there are some hidden adverse reactions in western medicines, they have obvious disease treatment effect and short cure time. On the contrary, although Chinese herbal medicines have less adverse reactions, the treatment time is long. Therefore, there have been produced compound Chinese and Western medicines with short cure time and less adverse reactions, so as to achieve disease treatment effect. Whether with Chinese and Western compound medicines, Chinese herbal medicines or western medicines, healthy and scientific and treatment can only be achieved after analysis and research of the theoretical connotation of pharmacy.

Contents of western medicine pharmacological system

The contents of western medicine pharmacological system are based on the modern scientific chemistry, biology and physics, for example, the relevant parts of the body are examined by a microscope, and the functional status of the organism is expounded through biochemical changes, physiological functions and pathomorphology. It is an important basis for the selection of appropriate prevention and treatment methods, also a key criterion for diagnosis of disease. The main worry of choosing drugs for disease treatment is the impact on body pathology, physiological and biochemical index changes, so appropriate drugs that can play a role in disease prevention and treatment are chosen. Doctors

usually give little consideration of the impact of internal factors during treatment, emphasizing the pertinency of external factors on patients' functional indices, which is the key to Western pharmacology theory.

Connotation of western medicines concept

Fundamentally, western medicine itself is similar to relevant contents of the pharmacological system of Western medicine, for example, the drug is acidic or alkaline, liquid or solid, but no matter what, the key is the physical properties or chemical properties of the drug. For example, lowering blood pressure, increasing blood sugar or inhibiting bacteria should be expressed in the drug efficacy of the corresponding pathological, physiological and biochemical indices and terms, the difference of the drug functions should be the key consideration in the aspect of biological activity, avoiding the use of different drugs and regarding the efficacy as a whole. In other words, western medicines must strictly follow the western pharmaceutical theory in the application process of drugs.

Major impact of western medicines on human health

Direct impact of western medicines on body

Western medicines are used by many patients due to their quick effect, however, improper application would directly damage the body organs. For example, many antibiotics will directly harm the patient's liver and kidney functions, and radiation therapy will directly hurt the body parts of patients, chemotherapy will destroy the bone marrow hematopoietic function and gastric mucosa, etc.

Destruction or inhibition of viscera function, resulting in a permanent imbalance of human endocrine

Long-term use of western medicines will leave a large amount of drug residues in the patient's body, some drugs will remain in the human tissues after drug absorption, and are difficult to discharge, causing direct impact on human health. Many clinical hormone drugs will largely inhibit liver function, resulting in endocrine disorders in patients, etc., and even life-long dependence on the drug.

Hindering of the body's own recovery and disease rehabilitation functions

Fundamentally, human beings resemble other living beings on earth. They have the function of self-protection, for example, they have very strong ability to resist viral and bacterial infection, and also have some self-healing functions on body diseases, automatically repairing and reconstructing

illness-related or injury-related injuries. Therefore, the uncontrolled abuse of drugs will lead to a gradual replacement of the inherent functions of the human body to survive, even hindering the rehabilitation function and slowly losing the body resistance ability. Even some of the functional planning may also be passed on to future generations, so that it will weaken the body of future generations, and ultimately lead to the degradation of virus recovery functions of human species.

Viral and bacterial evolution endangering human health

The development of antibiotics indeed cured many infectious diseases caused by viral infection, also greatly contributed to the cause of human health. However, the large application of antibiotics, combined with exaggerated condition of patients in clinical treatment, resulting in patients' superstition of drug treatment efficacy, formed the current abuse of antibiotics in the medical field. The large application of antibiotics on the one hand will lead to patients' severe clinical adverse reactions, on the other hand also accelerated the evolution of many cell viruses to have stronger drug resistance, and then upgrade to a new strain with larger toxicity, and the study cycle of drug is significantly slower than the evolution of the viruses and bacteria. Since western medicines can not distinguish, so beneficial bacteria will be killed while killing viral microbes, resulting in flora imbalance.

In this paper, the clinical data of 58 patients who had adverse reactions in our hospital were reviewed and summarized, the results showed that the most common route of administration was intravenous drip, accounting for 72.41%, and the most common route of administration for patients who had adverse reactions of western medicines was intravenous drip, accounting for 72.41%, intravenous injection, intramuscular injection and oral administration also led to adverse reactions. The main parts of patients with adverse reactions were skin and accessories, accounting for 56.89%, followed by nervous system and digestive system, accounting for 15.52% and 13.79%, respectively, with the main clinical manifestations of rash, swelling, fever, vomiting, dizziness, insomnia, abdominal distension, diarrhea, etc. After analysis of the patients' adverse reactions of western medicines, irrational medication is the main cause, and due to the different mechanisms of action of the drugs, and the individual differences of patients, it is easy to cause the occurrence of adverse reactions. In the survey, there was 1 patient with gastric bleeding by taking indomethacin and aspirin at the same time, the main reason is that

indomethacin has a strong stimulating effect; aspirin hydrolysis will generate salicylic acid to stimulate the gastrointestinal tract mucosa. Therefore, the combined use of both will bring more serious adverse reactions.

In order to effectively reduce the incidence of adverse reactions, and effectively improve the treatment effect, we can do the following: firstly, we should strengthen the understanding of the relevant adverse reactions, master the pharmacodynamics and contraindications of different western medicines, and conduct medication in strict accordance with the instructions and specific conditions of patients. Prescription of drugs shall be made after fully understanding the patient's condition and the pathological effects of different drugs, developing scientific drug medication. Secondly, the relevant medical staff should actively strengthen the drug use knowledge training, make clear the pharmacological effects and use knowledge of western medicines. In response to the occurrence of patients with adverse reactions, nurses should also closely observe and diagnose the patient's condition, make timely and effective treatment to avoid aggravation of the disease. In addition, pharmacists also need to strengthen the intervention of western medication, carry out a rigorous review of western medicine prescription [5]. Hospitals also need to strengthen the dynamic management of the use of western medicines, and ensure drug safety.

In conclusion, there are many kinds of western medicines and the combination of different pharmacological drugs can produce adverse reactions. Therefore, clinicians should strengthen the mastery of the pharmacological properties of western medicines and rationally use the drug according to the actual situation of patients, improve the safety of medication and reduce the occurrence of adverse reactions.

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