

Prevention and Treatment of Deep Vein Thrombosis of the Lower Limbs in Patients with Complications after Orthopedic Trauma Surgery

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Abstract: Objective: To explore and analyze on how to prevent and treat deep vein thrombosis of the lower limbs in patients with complications after orthopedic trauma surgery. **Methods:** The research patients were selected from the cases of surgical treatment of orthopedic trauma in the hospital during the past two years, and a total of 58 patients were selected. The patients were randomly divided into two groups, with 29 patients in the control group treated with conventional clinical methods; and the other 29 patients were assigned to the experimental group, where targeted preventive and therapeutic measures were administered. During the research, the number of complications of postoperative deep vein thrombosis of the lower limbs and the corresponding treatment efficacy were compared between the two groups of patients. **Results:** According to the results of clinical experiments, the probability of patients in the experimental group suffering from deep vein thrombosis of the lower limbs after surgery was significantly lower than that of the control group ($P<0.05$); in addition, when complications of deep venous thrombosis of the lower limbs occurred, the treatment efficacy of the patients in the experimental group was 96.55%, and the treatment efficacy of the patients in the control group was 82.76%. There was a significant difference between the two groups ($P<0.05$). **Conclusion:** Through clinical experiments to study and analyze the prevention and treatment measures of deep vein thrombosis in patients with complications after orthopedic trauma surgery, this research proves

that active and comprehensive preventive and treatment measures can effectively reduce the number of complications and improve surgery treatment efficacy.

Keywords: Orthopedic trauma surgery; Disease symptoms; Deep vein thrombosis of lower limbs; Prevention; Treatment

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Deep vein thrombosis (DVT) refers to the blood clotting in the deep veins caused by certain reasons, thereby forming a thrombus, which in turn blocks the blood circulation, slows the blood flow rate, damages the blood vessel wall, and causes inflammation and a series of adverse reactions, such as edema, dermatitis, etc. These complications are common in the lower limbs and they are also relatively common diseases in clinical practice. If not treated in time, it may seriously affect the patient's physical functions, and it may even be fatal^[1]. Clinically, it can be diagnosed by Color Doppler Ultrasound. Anticoagulation treatment is performed according to the patients' conditions. If the condition is serious, surgery may be required. Therefore, this paper discusses and analyzes on how to prevent deep vein thrombosis of the lower limbs in patients with complications after orthopedic trauma surgery. The experimental results are reported as follows.

1 Clinical information and methods

1.1 Clinical information

The research patients were selected from the cases of surgical treatment of orthopedic trauma in the hospital during the past two years, and a total of 58

patients were selected and randomly divided into two groups. There were 29 patients in the control group and 29 patients in the experimental group. Comparing the basic information of the two groups, according to Table 1, there is no significant difference ($P>0.05$), the research subjects can be compared (Table 1).

Table 1. Comparison on the Basic Information of the Two Groups of Research Subjects

Group	No. of Cases	Gender		Average Age
		Male	Female	
Experimental	29	16	13	45.11±6.53
Control	29	15	14	44.75±6.74
<i>P</i>	-	>0.05	>0.05	>0.05

1.2 Methods

Patients in the control group were treated with conventional clinical methods. First, surgical treatment was performed according to the patients' conditions and then postoperative care was carried out. If deep vein thrombosis of the lower limbs had occurred, treatment was administered according to the conditions.

On the basis of conventional operations, patients in the experimental group were administered a dual-plan of prevention and treatment: first, preventive measures for deep vein thrombosis: ① The main cause of deep vein thrombosis is the increase in blood viscosity in the blood circulation of the patients after orthopedic trauma surgery. The possibility of blood clotting in the blood vessels increases the possibility of thrombosis in the patients. If the patients' venous intima is damaged during surgery, it will cause inflammation, edema and other adverse reactions. Therefore, during orthopedic trauma surgery, it should be performed as carefully as possible to avoid damages to the patient's venous intima, and to protect the patient's whole body, especially the veins of the limbs. ② After the operation, place the patient's limbs appropriately to ensure that their veins and blood vessels were not compressed, and the patients and their families were instructed on how to change their posture to reduce blood vessel compression. ③ In the later stage of treatment, rehabilitation training was carried out according to the wound recovery. The second is the treatment method: ① Upon admission, the patient had to undergo a full-body examination, and the medical history should be inquired in conjunction with the examination results to prognose

the incidence of postoperative complications. When symptoms of deep vein thrombosis were observed after surgery, the ultrasound results were used in conjunction for confirmation, and corresponding treatments were carried out according to the conditions, such as raising the patient's lower limbs to speed up blood flow, bandaging and training the lower limb muscles. When the thrombosis was serious, surgical treatment is needed to remove the thrombus to ensure life safety^[2].

1.3 Observation indicators

During the experiment, the number of complications of deep vein thrombosis of the lower limbs after surgery and the treatment efficacy after corresponding treatment were compared between the two groups of patients.

1.4 Statistical analysis and processing

The clinical data were calculated and processed with SPASS software, and $P<0.05$ was used as the standard to determine if there were significant differences between the experimental data.

2 Results

2.1 Comparison of the complications in the two groups of patients

Through the observations and statistics of the clinical manifestations of the two groups of patients, the results show that the probability of postoperative complications in the experimental group was much lower than that of the control group ($P<0.05$). The specific data are shown in Table 2.

Table 2. Comparison of the Complications in the Two Groups of Patients

Group	No. of Cases	Incidence of DVT	Thrombus Type		
			Peripheral	Intermediate	Mixed
Experimental	29	3(10.34%)	1	0	2
Control	29	9(31.03%)	3	2	4
P	-	<0.05	-	-	-

2.2 Comparison of the treatment efficacy of postoperative complications between the two groups

Through the observation and statistics of the treatment effect in the two groups of patients, it can

be seen from the results that the treatment efficacy of the experimental group was significantly higher than that of the control group ($P<0.05$). The specific data are shown in Table 3.

Table 3. Comparison of the treatment efficacy of postoperative complications between the two groups

Group	No. of Cases	Significant	Effective	Ineffective	Efficacy(%)
Experimental	29	15	13	1	96.55
Control	29	10	14	5	82.76
P	-	-	-	-	<0.05

3 Conclusion

This paper confirms through actual comparative experiments that it is very important to prevent and treat the complications of deep vein thrombosis of the lower limbs in-time during orthopedic trauma surgery, which can not only reduce the incidence of deep vein thrombosis of the lower limbs in patients, but also greatly improved the treatment efficacy. Therefore, in order to improve the quality of life and treatment efficacy of patients undergoing orthopedic trauma surgery, prevention and treatment measures

for complications should be promoted.

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