

# The Effect of Prospective Nursing to Lower Deep Vein Thrombosis after the Internal Fixation of Femoral Intertrochanteric Fracture

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**ABSTRACT Objective:** The effect of prospective nursing to lower deep vein thrombosis after the internal fixation of femoral intertrochanteric fracture was studied. **Method:** 80 patients, who treated with the internal fixation of femoral intertrochanteric fracture in the orthopedics department of our hospital between January 2012 and June 2013 were selected, the patients were randomly allocated to control group and test group, 40 cases per group, the control group were treated by conventional nursing measures, while the test group used the prospective nursing measures. Compared the living quality and the lower deep vein thrombosis of two groups. **Results:** For the living quality, the scores of all items in prospective nursing group were better than conventional nursing group. The number of lower deep vein thrombosis in the prospective nursing group was 2 cases and the conventional nursing group was 8 cases, with statistical difference. **Conclusion:** The prospective nursing could reduce the incidence of lower deep vein thrombosis after the internal fixation of femoral intertrochanteric fracture, improved the living quality of such patients after surgery, worth clinical promotion.

## KEYWORDS

Internal fixation  
Intertrochanteric fracture  
Vein thrombosis

## 1. Introduction

The femora intertrochanteric fracture was often happened in the elder, the common treatment to the patient of femora intertrochanteric fracture was plate internal fixation. However, long-term bedridden after surgery could result in lower intravascular stagnation and then lead to deep vein thrombosis easily. The prospective thinking is a predicting thinking [1], the core of prospective nursing is dominated by precaution. It is necessary to assess the danger level of lower deep vein thrombosis before the internal fixation of femoral intertrochanteric fracture, anticipate and prevent the possible adverse event in the nursing by a series of related measures [2]. Compared to the traditional nursing model, the nursing model is more professional,

fine and safe, can improve the nursing quality. The prospective nursing after the internal fixation of femoral intertrochanteric fracture in the orthopedics department of our hospital as follow.

## 2. Materials and methods

### 2.1. Materials

80 patients, who treated with the internal fixation of femoral intertrochanteric fracture in the orthopedics department of our hospital between January 2012 and June 2013, were randomly allocated to control group and test group, 40 cases per group. In the control group, there were 18 cases of male and 22 cases of female, the average age was  $80.5 \pm 4.56$  years; In the study group, there were 21 cases of male and 19 cases of female, the average age was  $79.9 \pm 4.82$  years. There was no significant difference in the sex, age, primary diseases and other history between two groups, conformed to the statistical characteristics and was comparable.

### 2.2. Methods

The control patients used the conventional nursing measures; the measures used by the test group included: (1) Setted up the prospective nursing group, in the nursing

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group, the head nurse guided two group leaders and 4–6 nursing staff, the included personnel must have some clinical experience, college degree or above and the capacity for scientific research. They will receive the training under the guidance of the head nurse and be familiar with the related knowledge of DVT. (2) Collected the patient data, such as age, gender, nation, dietary habit, degree of education, medical history etc. Assessed the risk of lower deep vein thrombosis properly. (3) The prospective nursing of psychological: Communicated with the patients and the family members, made them understand the precautions of pre-operation, intra-operative and postoperative, eliminated the doubt and worry of patients and family members to surgery and prognosis. Notified the patient state of an illness, surgical method and safety, eliminated the doubt of patient to the surgeon, and enhanced the self-confidence of patient. (4) The prospective nursing of deep vein thrombosis: venous return obstruction and blood perform poorly resulted the lower vein thrombosis, followed by deep vein thrombosis. Moderate activity and massage could accelerate the blood circulation, prevent the vein thrombosis. The patients were advised to perform the isometric quadriceps femoral contraction exercises and static contraction exercises before the operation, perform the progressive muscular training and massage after the surgery, prevent the vein thrombosis; at the same time, advised the patient to give up smoking, avoid the high cholesterol diet, drink plenty of water after the surgery, if necessary, administered the low molecular heparin sodium by subcutaneous injection for about 1 week, used the pulse therapy, gradient pressure stretch hose etc. (mechanical theory) to accelerate the lower vein blood flow. The other prospective nursing, such as increasing nutritional diet, tone up physical force, infection prevention, limb function training after discharge etc.

### 2.3. Evaluation index

Evaluated and compared the incidence of vein thrombosis and living quality of patients in two group before dis-

charge, drew the conclusion.

### 2.4. Statistical method

All the data was analyzed by SPSS 18.0 statistical software, the difference test of measurement data was *t* test, the difference test of enumeration data was  $\chi^2$  test. When the  $p < 0.05$ , the difference was significant.

## 3. Results

### 3.1. The comparison of the incidence of deep vein thrombosis between two groups

2 cases suffered from deep vein thrombosis in the test group and 8 cases in the control group, there was significant difference between two groups ( $p = 0.043, < 0.05$ ).

### 3.2. The living quality score of two groups

The two nursing measures showed various differences in the living quality, the prospective nursing group was well better than the conventional nursing group, the difference was significant,  $p < 0.05$ .

## 4. Discussion

Along with the development of medicine and medical technology, the requirement of nursing quality of people become more and more high, the conventional nursing model shows some defects, for example, lack of the psychological nursing of patient, can't provide better guidance for patient and accurate judgment of disease development etc. For the quality management, the method of finding and solving problem is quality inspection and feedback control. The prospective nursing can offset the above defects of conventional nursing significantly, the method used the scientific management, continually improved the nursing quality, made reasonable anticipation for the occurrence and development of disease. The internal fixation of femoral intertrochanteric fracture was a major surgery of orthopedics department, the surgery was closely related to the Lower deep vein thrombosis, the prospective nursing to patient during the pre-operation, intra-operative

**Table 1.** The incidence of deep vein thrombosis by different intervention measure.

Group	Total number	Number of patient suffered from lower deep vein thrombosis
Conventional nursing group	40	8
Prospective nursing group	40	2
$\chi^2$	-	4.114
$p$	-	0.043

**Table 2.** The living quality score by different intervention measure.

Group	Physical strength	Society	Feelings	Economy
Conventional nursing group	9.2 ± 2.8	3.1 ± 2.1	6.4 ± 2.1	4.2 ± 2.4
Prospective nursing group	6.4 ± 4.1	2.4 ± 1.3	5.2 ± 2.7	2.9 ± 1.4
<i>t</i>	4.37	2.2	2.72	3.62
$p$	0.025	0.032	0.046	0.028

and postoperative could effectively reduce the incidence of lower deep vein thrombosis and improve the living quality of patient [3].

Most of patients with femoral intertrochanteric fracture were the aged, because of the age and physical difference etc., the prognosis of such patients tended to poorer than the young. In the conventional nursing group, the elderly patients lacked enough understanding in the disease, resulted in them being not able the work with the nursing; However, in the prospective nursing group, the initial training had comprehensive analyzed the possible issue during the nursing of the elder, provided the effective and rapid solution, made the performance of nursing more rapid and targeted, obtained more coordinate of the elder accordingly. For the other specific types of patients, such as menopausal women and patients with high pressure, there was complete processing plan during the training, resulted in the better effect.

The cooperation between doctor and nurse could improve the living quality of patient with femoral intertrochanteric fracture, nursing plays an important role in the recovery of femoral intertrochanteric fracture [4,5]. In the clinical course, the prospective nursing could give full play to the positivity and initiative of nurse, provided the well rehabilitation training for patients, improved the work quality. The basis of work correctly was to set up the fairly sophisticated quality management system, which should include: First, established the strict responsibility and working system ; Second, the specialized nursing guide should been scientific, the operability should been stronger, and made appropriate adjustment as request; Furthermore, define responsibility, manage the data by layer, give the sufficient QC rights to group leader; Finally, perform the normalized and perfect training, provide the sufficient theoretical support. The prospective nursing is on the base of professional and normalization, realized by the scientific and ordered management and high level of nursing, at the same time of give full play to the collective strength, fully embodies the individual value in the work [6].

Although only part of scholars indicated that among the influence factors after the internal fixation of femoral intertrochanteric fracture, the nursing model only accounted

for 7% of the overall influence factors, during the actual operation, we should take full account of the state of medical level at this stage in China, i.e. the manpower distribution of nurse in large hospital was serious inadequate. The prospective nursing quality management system belongs to three level quality control model, which requires perfect training system, examination system and inspection system, and has a higher requirement to the nurse. At present, the manpower distribution of nurse in hospital in China is much lower than the developed country, the task of nursing is overloaded, the issue which the hospital should think over before the prospective nursing is that how to alleviate the pressure of nurse during the prospective nursing and attempting to optimize nurse distribution.

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