Clinical Analysis of Treating 17 Cases of Deep Vein Thrombosis with Lumbrokinase

Song Jinshu[1]Li Jing [2]

(1.Dongming People's Hospital of Shandong Province, 274500; 2.The Sixth Branch of Zhongyuan Oilfield General Hospital)

Translated by Novia Liu, ND (Vancouver, BC)

Abstract [Goal] Examine the efficacy of lumbrokinase in treating deep vein thrombosis. [Methods] Lumbrokinase was given to 17 patients with deep vein thrombosis, and monitored by ultrasound imaging and hemorrheology testing. [Result] After treatment, fibrinogen level decreased from (5.87±1.47) g/L to (3.68±0.82) g/L, and platelet aggregation rate dropped from(48.4±1.98)% to (32.6±0.65)%, with statistical significance (P<0.01). Lumbrokinase was also found to resolve acute phase of deep vein thrombosis in all patients, indicating early diagnosis and treatment are the keys to achieve clinical efficacy. [Conclusion] Lumbrokinase is a safe, effective, convenient, easily complied treatment for deep vein thrombosis.

[Keyword] Lumbrokinase; Deep vein thrombosis; Hemorrheology

CLC: R456 Document code: B Article ID: 1 (1) 4 - 1257 (2001) 04 - 0111 - 01

Deep vein thrombosis (abbreviated as DVT) is a common peripheral vascular disease. It not only severely affects the function of the diseased part, but can also cause death due to pulmonary embolism within one month of disease onset if an embolus dislodges [1]. In this research, 17 patients with DVT were treated with lumbrokinase and monitored by hemorrheology testing as detailed below:

1. Data and Methods

1.1 Gender, Age and Duration of Illness: All subjects were hospital inpatients and diagnosed with uniformed standards [2] .There were 11 males (64.7%) and 6 females (35.3%), ranging from 27-75 years of age. The duration of illness disease varied between 3-24 days.

1.2 Onset Type, Etiology, and Location: Onset within one month is defined as acute stage (4 cases, 23.5%), and onset of more than one month is defined as chronic stage (13 cases, 76.5%). Among all the subjects, 3 cases occurred after surgery (17.6), 1 due to malignant tumor (5.9%), 1 postpartum (5.9%), 1 due to trauma of the foot (5.9%), 1 due to long-term immobility (5.9%), and 10 were idiopathic (58.8%). DVT occurred in the left lower extremity for 34 subjects (58.8%), right lower extremity for 5 subjects (29.4), and both lower extremities for 4 subjects (23.5%).

1.3 Supplementary Tests: Doppler ultrasound and hemorrheology testings.

1.4 Monitoring Parameters: Clinical signs and symptoms, such as skin colour, temperature, and degree of swelling in lower extremity; ultrasound imaging; hemorheology testing; and adverse reactions.

1.5 Treatment: 400mg of lumbrokinase (2 capsules) manufactured by Qingdao Shuanglong Pharmaceutical Co., Ltd.(brand name: Panford lumbrokinase) was given 3 times a day, half an hour before meals, for 45 days as one treatment course.

2. Results

2.1 Criteria of Efficacy: Efficacy was evaluated according to the same standardized criteria after treatment [2]. Eight patients (47.0%) were considered clinically cured, five patients (29.4%) were considered markedly improved, two patients (11.8%) were considered improved, and two patients (11.8%) were non-responsive. Of the 4 patients who started treatment during the acute illness stage (within 1 month of illness onset), 3 were cured.

2.2 Hemorrheology Testing: Fibrinogen level was (5.87 ± 1.47) g/L and platelet aggregation rate was (48.4± 1.98)% before treatment. After treatment, fibrinogen was reduced to (3.68± 0.82), and platelet aggregation rate decreased to (32.6 ± 0.65)%. Both changes were statistically significant ($P<0.01$).

3. Discussion

The etiologies for DVT are numerous and their mechanisms can be complicated, but the ultimate cause is the formation of thrombus. Lumbrokinase is an oral agent derived from earthworms. It is a multi-enzyme preparation that contains plasmin and tPA-like components. According to clinical and experimental researches, lumbrokinase has profound effects on anti-coagulation, thrombolysis, improving microcirculation, and suppressing thrombus formation; it has demonstrated significant preventative and therapeutic effects on various cardiovascular conditions [3]. Our research also indicated that 3 out of 4 patients in the acute stage of DVT were able to recover completely after taking lumbrokinase – a much higher clinical efficacy than in chronic stage patients. Thus early diagnosis/treatment was the key to ensure its efficacy. Lumbrokinase capsules are easy to take with good patient compliance, and few side effects. There were 2 cases of nausea during our study, and both resolved with simple clinic management. Clinical studies have proven lumbrokinase to be safe and effective, and can be considered as an effective new treatment for DVT.

Reference

[1] Feng Youxian, editor. Vascular Surgery, 2nd edition. Shanghai: ShangHai Scientific and Technological Publisher. 1992, 538

[2] Committee of Peripheral Vascular Disease, China Society of Integrated Traditional Chinese and Western Medicine. Criteria for diagnosis and Treatment for Peripheral Artery Occlusive Disease.Clinical Focus (Suppl), 1990. 39-41

[3] Zhang Gouping, Zhang Ming, Jin Huiming. Anticoagulative and fibrinolytic effects of lumbrokinase and their relation to t-PA.Chinese Journal of Microcirculation. 1997. 7(2):32

(Received: 2000-04-15)
(Editor: WuXuelin)