

นิพนธ์ต้นฉบับ

Deep Venous Thrombosis : Five Years Analysis at Prapokklao Hospital

Piyapong Permlarp M.D.*

Abstract

Objective : To determine the age, sex, underlying risk factors and clinical manifestations of patients with deep venous thrombosis at Prapokklao Hospital.

Materials and methods : Retrospective descriptive study of the medical records with diagnosis of deep venous thrombosis at Prapokklao Hospital in five year period, from October 1, 1999 to September 30, 2004. Diagnosis of deep venous thrombosis was based on consistent clinical manifestations and confirmed by contrast venography or compression ultrasonography.

Results and conclusion : There were 41 cases of deep venous thrombosis. The male to female ratio was 1.9 : 1 and the median age was 62 years. Most patients (95.1 percent) had one or more risk factors. The three most common risk factors were age older than 40 years, immobilization and malignancy. (82.9, 56.1 and 26.8 percent respectively). The most common clinical manifestation was localized swelling (100 percent). Clinical manifestations of inflammation were uncommon. This hospital-based study provides helpful fundamental data of deep venous thrombosis in the Thai population but there are many unstudied aspects of the issue. Further study may be required.

Introduction

Deep venous thrombosis is an important venous insufficiency, are accounting for a vascular disorder. The serious and potentially significant part of cardiovascular morbidity and preventable consequences of this disorder, mortality. The incidence of deep venous pulmonary embolism and the syndrome of chronic thrombosis varies in different parts of the world,

* Cardiovascular Unit, Department of Internal Medicine, Prapokklao Hospital, Chanthaburi Province, Thailand.

for reasons that are not yet completely understood.¹⁻¹¹ In Thailand, the incidence of deep venous thrombosis varies widely, ranging from 1.7 to 13.9 percent.¹²⁻¹⁵ A number of study design factors such as different study population, diagnostic uncertainty or misclassification may have contributed to wide variation in reported rates.

The changing demographic patterns, particularly the aging of the population, are increasing the risk of venous thromboembolism. New diagnostic instruments and the knowledge and tools for effective prevention and treatment are currently available. Early identification, effective prevention and treatment and targeted education programs for physicians may offer the chance to reduce the incidence of deep venous thrombosis and associated morbidity and mortality. However, there are only few studies providing the fundamental data of deep venous thrombosis in the Thai population.

This study aims to elicit the fundamental data about the age, sex, clinical manifestations and risk factors of patients with deep venous thrombosis at Prapokklao Hospital.

Materials and methods

The study population constituted all patients discharged during a five year period, from October 1, 1999 to September 30, 2004 with a diagnosis of deep venous thrombosis from Prapokkalo Hospital. Medical records were individually reviewed and validated based on discharge diagnoses selected from the international classification of diseases and related health problems, tenth revision (ICD 10) codes

for deep venous thrombosis.

Cases selected for review were required to fulfill the following criteria. (1) To have clinical manifestation of deep venous thrombosis (2) To have positive contrast venography or compression ultrasonography.

A standard data abstraction form was developed for the medical record review. This form included information on demographic characteristics, clinical manifestations and risk factors for deep venous thrombosis. Risk factors evaluated for the deep venous thrombosis included age, immobilization, surgery, malignancy, trauma, pregnancy, estrogen use, hypercoagulable states and previous deep venous thrombosis. Immobilization was defined as 3 or more days of continuous bedrest in the previous 4 weeks. Surgery included major operations during which anesthesia lasted 30 minutes or more. Data were collected and analyzed descriptively.

Results

There were 96 patients with the final diagnosis of deep venous thrombosis. Fifteen readmissions and 40 patients who not met the inclusion criteria were excluded.

Of 41 included patients, there were 27 women (66 percent) and 14 men (34 percent). The age ranged from 18 to 85 years. The median age was 62 years. Age and sex distributions are shown in table 1.

Table 1 : Age and sex distributions of patients

Age (years)	Male	Female	Total (percent)
11 – 20	0	1	1 (2.4)
21 – 30	2	1	3 (7.3)
31 – 40	1	2	3 (7.3)
41 – 50	3	7	10 (24.4)
51 – 60	0	3	3 (7.3)
61 – 70	3	3	6 (14.6)
71 – 80	3	9	12 (29.3)
81 – 90	2	1	3 (7.3)
Total	14	27	41

Localized swelling was found in all patients. Pain and redness were found in 31.7 and 24.4 percent of 41 patients respectively. Other clinical manifestations are shown in table 2.

Table 2 : Clinical Manifestations of deep venous thrombosis

Clinical manifestation	No of Patients (percent)
Localized swelling	41 (100)
Pain	13 (31.7)
Redness	10 (24.4)
Tenderness	9 (21.9)
Warmth	7 (17.1)
Dilated superficial vein	2 (4.9)
Cyanotic skin	1 (2.4)

Thrombi occurred in the left leg more common than the right (58.5 and 34.1 percent respectively). Three cases (7.3 percent) had thrombosis of both legs. Sites of thrombosis are shown in table 3.

Table 3 : Sites of thrombosis

Site of Thrombosis	No of Patients (percent)
Left leg	24 (58.5)
Right leg	14 (34.1)
Both legs	3 (7.3)

Risk factors for deep venous thrombosis were identified in 39 patients (95.1 percent). Table 4 gives the distribution of the risk factors. The three most common risk factors were age older than 40 years (82.9 percent), immobilization (56.1 percent) and neoplasm (26.8 percent). Two patients (4.9 percent) had no demonstrable risk factor.

Discussion

Deep venous thrombosis is one of the cardiovascular causes of morbidity and mortality.

The incidence of thromboembolism is virtually equivalent to the incidence of stroke in the US population.¹⁶ The reported incidence of deep venous thrombosis in the Thai patients varies in different studies, ranging from 1.7 percent in post – operation of female reproductive tract to 13.9 percent in post –operation of malignant diseases.¹²⁻¹⁵ In the present study, the annual incidence rate of deep venous thrombosis at Prapokklao Hospital was 0.3 per 1000. This figure may underestimate due to strict case definition which only symptomatic patients with positive

Table 4 : risk factors for deep venous thrombosis

Risk Factor	No of Patients (percent)
Age > 40 years	34 (82.9)
Surgery	2 (4.9)
Neoplasm	
Cervix	4 (9.8)
Ovary	2 (9.8)
Breast	2 (4.9)
Pancrease	1 (2.4)
Esophagus	1 (2.4)
Carcinomatosis peritoneii	1 (12.4)
Immobilization	
Congestive heart failure	4 (9.8)
Stroke	9 (21.9)
Others	10 (24.4)
Hypercoagulable states	
Chronic myeloid leukemia	1 (2.4)
Systemic lupus erythematosus	1 (2.4)
Nephrotic syndrome	2 (4.9)
Estrogen use	
Contraceptive pill	2 (4.9)

contrast venography or compression ultrasonography were included.

As in other studies,^{1, 4, 9, 16, 17} Deep venous thrombosis was found more frequent in the elderly. The disease was more prevalent in female with female to male ratio of 1.9 : 1. This findings is consistent with other study.¹⁷

Although most deep venous thrombosis are clinically silent when they are first detectable by objective methods, probably because they do not totally obstruct the vein and because of collateral circulation,^{18 - 20} but findings are useful when present. A careful history and physical examination can usually lead to the diagnosis of deep venous thrombosis. In this study, localized swelling was found in all patients but sings of inflammation were uncommon. These findings may help to differentiate deep venous thrombosis from cellulitis which inflammation of the skin is more prominent.

Similar to other studies,^{17, 22} The left leg was affected more common than the right. Bilateral involvement was found in 7.3 percent of patients. This finding suggests that deep venous thrombosis should be considered in case of bilateral leg edema although it is more likely to be due to heart, kidney or liver disease.

Despite limited laboratory investigations for coagulation abnormality in this hospital, most patients (95.1 percent) had one or more identifiable risk factors for deep venous thrombosis. This finding suggests that if no obvious underlying risk factors identified initially, reevaluation by a careful history and physical examination with appropriate laboratory

workup should be performed.

About 27 percent of patients had an underlying malignancy. Occult malignant neoplasm should be looked for, especially if no other demonstrable risk factor. However, opinions vary as to what constitutes an appropriate workup. The extent of the workup needs to be tailored to the individual patient.^{22,23}

In summary, this hospital - based study provides helpful fundamental data about demographic characteristics, clinical manifestations and risk factors of deep venous thrombosis in the Thai population but there are many unstudied aspects of the issue. Further study may be required.

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