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A study to assess the risk factors of deep vein thrombosis among ortho patients in saveetha medical college and hospital

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Abstract
DVT and pulmonary embolisms (clots in the lungs) are conditions known as venous thrombosis. Fortunately, venous thrombo embolisms are rare conditions, with about one in 2,000 people in the UK affected each year. DVT is less common in people under the age of 40 (less than one in 3,000) and more common in people over the age of 80 (up to one in 500).A DVT usually develops in the calf, but it sometimes also occurs in the thigh. Occasionally, other deep veins in the body are affected. Inflammation of surface veins (superficial phlebitis) is much less serious. Deep vein thrombosis (DVT) is common seen in patients undergoing spine surgery. However, its prevalence and associated risk factors have not been well understood yet. This retrospective case cohort study was designed to investigate risk factors for postoperative DVT using retrospectively collected data from department of spine surgery between 07/2013 and 07/2014. Univariate analysis and binary logistic regression analysis were used to determine risk factors for DVT. A total of 861 patients were admitted into DVT-associated analyses, including 410 males and 451 females, aged from 15 to 87 years old (median 54, IQR 18). Of them, 147 cases (17%) sustained postoperative DVT. Using prophylaxis for DVT is neither complicated nor expensive. In fact, several studies show that preventing this disease is cheaper than treating its consequences. Giving prophylaxis to those who are at risk should be a routine practice in the hospital. Basically, the approach to DVT prevention is similar to preventing postoperative wound infections. As with antibiotic administration, the keys to preventing DVT in know who is at risk, when to apply the preventive measure, and applying the appropriate measure.

Keywords: deep vein thrombosis, risk factors, ortho patients, prophylaxis

Introduction

DVT and pulmonary embolisms (clots in the lungs) are conditions known as venous thrombosis. Fortunately, venous thrombo embolisms are rare conditions, with about one in 2,000 people in the UK affected each year. DVT is less common in people under the age of 40 (less than one in 3,000) and more common in people over the age of 80 (up to one in 500).A DVT usually develops in the calf, but it sometimes also occurs in the thigh. Occasionally, other deep veins in the body are affected. Inflammation of surface veins (superficial phlebitis) is much less serious.

A blood clot (thrombus) in the deep venous system of the leg is not dangerous in itself. The situation becomes life-threatening when a piece of the blood clot breaks off (embolus, pleural=emboli), travels downstream through the heart into the pulmonary circulation system, and becomes lodged in the lung. DVT usually occurs in the deep leg vein, the larger veins that run through the muscles of the calf and the thigh. It can cause pain, swelling and can lead to complications such as pulmonary embolis

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DVT is an important public health problem. Each year, 600,000 patients will experience venous thromb O embolism. Each year at least 50,000 and perhaps as many as 200,000 patients will die from blood clots that obstruct blood flow to their lungs (pulmonary embolism). The tragedy is that most of these problems could be avoided by simple, cost-effective measures. Use of modern methods of DVT prophylaxis will reduce the incidence of DVT during the postoperative period by two-thirds and will prevent death from pulmonary embolism in 1 patient out of every 200 major operations.

The age and gender adjusted annual incidence of dvt was 70.67per one lakh person per year comper to patient ageless tha fourty nine are risk of dvt was five times higher in patients aged fifty to sixty nine and ten times higher in patients age greater than seventy years. female showed greater risk of dvt than males. Hip orthoplasty knee ortho plasty and knee orthoplasty and hip fracture and ortho paedic surgery are strongly associated with the greater risk of dvt.

John a. heitmd *et al*, was supported a study to identify vein thrombosis and pulmonary embolism and to estimate the magnitude of risk for each. We performed a populationbased, nested, case-controlstudy of 625 Olmsted County, Minnesota, patients with a first lifetime VTE diagnosed during the 15 year period from January 1, 1976, through December 31, 1990, and 625 Olmsted County

patients without VTE.

The 2 groups were matched on age, sex, calendar year, and medical record number. Independent risk factors for VTE include surgery (oddstratio (or), 21.7;95% confidence interval [CI], 9.4-49.9), trauma (OR, 12.7; 95% CI, 4.1-39.7), Hospital Or nursing home confinement (OR, 8.0; 95%CI, 4.5-14.2), malignant neoplasm with (OR, 6.5; 95% CI, 2.1-20.2) or without(OR, 4.1; 95% CI, 1.9-8.5) chemotherapy, central venous catheter or pacemaker (OR, 5.6; 95% CI, 1.6-19.6), superficial vein thrombosis(OR, 4.3;95% CI, 1.8-10.6), and neurological disease with extremity paresis (OR, 3.0; 95% CI, 1.3-7.4). Therisk associated with varicose veins diminished with age (forage 45 years: OR, 4.2; 95% CI, 1.6-11. 3; for age 60 years: OR, 1.9; 95% CI, 1.0-3.6; for age 75 years: OR, 0.9; 95% CI, 0.6-1.4), while patients with liver disease had are duced risk (OR, 0.1; 95% CI, 0.0-0.7). Hospital or nursing home confinement, surgery, trauma, malignant neoplasm, chemotherapy, neurologic disease with paresis, central venous catheter or pacemaker, varicose veins, and superficial vein thrombosis are independent and important risk factors for VTE the purposes of the study [1] To assess the demographic variable of orthopaedic patients [2] To determine the risk factors of deep vein thrombosis among ortho patient [3]. To associate the risk factors of deep vein thrombosis among orthopatient with selected demographic variables

Methods and materials

A quantitative approach with Descriptive design was chosen for the study to assess risk factors of deep vein thrombosis among orthopaedic patients at Saveetha Medical College and Hospital, Chennai, 30 orthopaedic patients were taken as samples by using a convenient sample technique. Inclusion criteria are who are in the age of 20 -60, who are willing to participate, Women who are able to read Tamil and English, Women who are available at the time of data collection and Exclusion Criteria are who are below the age of 20 and above the age of 60, who are not willing to participate, who are not able to read Tamil and English.

Results and discussion

A. Section

The first objective of the study to assess the Demographic Variables of the orthopaedic patients.

out of 30 patient 14 patient (46.6%) belong to age group of (30-40) years, majority of patients were male 25 (83.3 %), regarding religion Hindu 17 (56.6%), education status of primary 13 (43.3%), regarding occupation 13(43.3%), regarding marital status married 11 (36.66) regarding income 13 (143.3%) gets Rs. 6,000.

B. Section

The second objective of the study to assess the risk factors of DVT among Orthopaedic patient.

Among 30 samples, 3 sample (10%) normal 13 samples (43.3%) have low risk; 3 samples (10%) have moderate RISK, 11 sample (36.6%) have high risk.

C. Section

The third objective of the study is to find out the association between frequency distribution of demo graphic variables with the risk factors of DVT among Orthopaedic patient.

Shows that in association between risk factors if DVT with selected demographic variables and has a not significant in age group and significant with sex, religion, education, occupation, marital status.

Table 1: Association between frequency distribution of demographic variables with their risk factors of dvt

S No	DVT	No risk		Low risk		Moderate risk		High risk		Chi-square
1	**Age**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	X^2=14.427 DF=6 P=12.59 not significant
	a. 20-30	3	10	6	20	0	0	0	0	
	b. 31-40	0	0	5	16.6	2	6.6	7	23.3	
	c. 41-50	0	0	2	6.6	1	3.3	4	13.33	
2	Sex									X^2=2.0947 DT=3` P=7.83 significant
	a. Male	3	10	11	36.6	3	10	8	26.66	
	b. Female	0	0	2	6.6	0	0	3	10	
3	Religion									X^2=10.769 DF=9 P=16.92 significant
	a. Hindu	1	3.3	2	6.6	0	0	4	13.3	
	b. hristian	1	3.3	8	26.6	1	3.3	7	23.3	
	c. Muslim	1	3.3	2	6.6	2	6.6	0	0	
	d. Others	0	0	1	3.3	0	0	0	0	
4	Education									X^2=13.562 Df= 9 P=16.92 significant
	a. Non-literature	0	0	6	20	0	0	4	13.3	
	b. Primary	1	3,3	6	20	0	0	6	20	
	c. Secondary	1	3.3	0	0	0	0	3	10	
	d. d) Graduate	1	3.3	1	3.3	1	3.3	1	3.3	
5,	Occupation									X^2=10.627 Df=9 P=16.92 significant
	a. daily wages	0	0	1	3.3	0	0	1	3.3	
	b. farmer	0	0	6	20	2	6.6	5	16.6	
	c. commerce	3	10	4	13.3	1	3.3	3	10	
	d. industry	0	0	2	6.6	0	0	2	6.6	
6	Marital status									X^2=5.189Df=9 P=16.92 significant
	a. married	0	0	6	20	1	3.3	4	13.3	
	b. unmarried	2	6.6	2	6.6	1	3.3	4	13.3	
	c. widow	0	0	2	6.6	0	0	1	3.3	
	d. divorced	1	3.3	3	10	1	3.3	2	6.6	

Table 1: Shows that in association between risk factors if DVT with selected demographic variables and has a not significant in age group and significant with sex, religion, education, occupation, marital status.

Conclusion

A study was conducted to assess the incidence of deep venous thrombosis in patient hospitalized for medical-illness in India. None of the factors was found to be significantly associated with the risk of DVT. In our setting, although many hospitalized medically-ill patients had risk factors for DVT, the absolute risk of DVT was low compared to the western population but clearly elevated compared to non-hospitalized patients. Prevention of deep vein thrombosis is very important among orthopaedic client. Many healthcare providers are under the false impression that this life-threatening illness is not a problem in their hospital or among their patients. While it is true that an individual doctor will normally see relatively few patients with this disease, it is clear that deep vein thrombosis is an important public health problem. Using prophylaxis for DVT is neither complicated nor expensive. In fact, several studies show that preventing this disease is cheaper than treating its consequences. Giving prophylaxis to those who are at risk should be a routine practice in the hospital. Basically, the approach to DVT prevention is similar to preventing postoperative wound infections. As with antibiotic administration, the keys to preventing DVT in know who is at risk, when to apply the preventive measure, and applying the appropriate measure.

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Author's contribution

All the authors actively participated in the work of the study. All authors read and approved the final manuscript.

Conflicts of interest

The authors declare no conflicts of interest.

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