Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 6, 2024

ANALYZING DEEP VEIN THROMBOSIS CASES: A RETROSPECTIVE STUDY IN A TERTIARY CARE CENTER

Dr Stanly Sajan 1, Dr Saipriya S V 2, Dr Arun Joseph 3

1. Dr Stanly Sajan ,Junior resident ,Department of General Surgery, Sree Mookambika Institute of Medical Sciences. Kulasekharam, Kanyakumari .

2.Dr Saipriya S V Junior Resident, Department of General Surgery, Sree MookambikaInstitute of Medical Sciences. Kulasekharam, Kanyakumari.

3. Dr Arun Joseph Junior Resident, Department of General Surgery, Sree MookambikaInstitute of Medical Sciences. Kulasekharam, Kanyakumari.

Corresponding Author: Stanly Sajan ,Junior resident ,Department of General Surgery, Sree Mookambika Institute of Medical Sciences. Kulasekharam, Kanyakumari ,Mobile number: 944977941,Email id: stanlysajankochuvila@gmail.com

ABSTRACT:

Background: Deep vein thrombosis is a serious life threatening condition which if untreated may lead to pulmonary embolism, propagation of thrombus to proximal veins and post thrombotic symptoms.

Aim: The aim of the study is to prevent the devastating complications of deep vein thrombosis by studying about their risk factors, clinical signs and symptoms, and the veins commonly involved.

Materials and methods: It is a retrospective descriptive analytic study of 30 patients presented with deep vein thrombosis in our hospital. The risk factors, the common mode of presentation and the complications were studied.

Results: In my study, 30 patients were included, out of which 24 patients presented with the clinical signs and symptoms of limb edema and pain during walking. DVT is more common in females (63%) than their male counterparts. 40-50 years is the most common age group affected with 37.5%. in my study. DVT commonly involved right lower limb with an incidence of 50%. The vein commonly involved was femoropopliteal vein (45%). The commonest risk factor for DVT was idiopathic which is 37.5%. The other risk factors were DVT in post surgery patients (25%) followed by malignancy which was 15%. The remaining 20% was divided equally between trauma and other medical ailments. Of the 30 patients, 1 patient developed pulmonary embolism.

Conclusion: The knowledge and identifications of risk factors are of importance in early recognition and treatment of deep vein thrombosis as well as prevention of subsequent deep vein thrombosis. The presence or absence of risk factors can guide the use of prophylactic

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 6, 2024

anticoagulation therapy in hospitalized patients.

Keywords: deep vein thrombosis, pulmonary embolism, anticoagulant therapy.

INTRODUCTION

Deep vein thrombosis, also known as phlebo-thrombosis is a condition characterized by accumulation of thrombus within one or more deep veins of the body predominantly the deep venous system of the lower limbs. The term thrombosis refers to the formation, from constituents of blood, of an abnormal mass within the vascular system of the human body. The thrombus may migrate to the lungs, causing pulmonary embolism and such venous thromboembolism (VTE) is the leading cause of preventable inpatient morbidity and mortality. The impact of this morbidity and mortality is largely recognized in daily practice because of low autopsy rates. The annual incidence in adults worldwide of a first VTE is 1-2 events per 1000 patient years and approximately 1 per 1000 adult patients suffers a clinically diagnosable event. A basic understanding of the underlying etiology, patho-physiology and natural history of the disease is essential for the early diagnosis and prompt management before the development of complications. Screening of high risk individuals for early identification and prophylaxis helps in drastic reduction in the incidence of DVT. Anti-coagulation is the mainstay of therapy for DVT, with the goal of preventing progression to PE and recurrence of thrombosis."

MATERIALS AND METHODS

In this study, a total of 30 patients diagnosed with deep vein thrombosis with or without complications were included. A retrospective assessment of these patients was done to analyse the incidence of common risk factors, recurrence, complications and mortality associated with DVT. The common risk factors like postoperative patients and malignancy were studied. The initial clinical presentation and the common signs and symptoms were also analyzed.

All patients were treated by lower limb elevation, absolute bed rest, intravenous bolus un fractioned heparin for one week, followed by oral warfarin overlapped with heparin and following INR levels above 2, heparin was stopped while warfarin was continued for a minimum of 3months with advice for compression bandaging of the affected lower limb. The patients who were symptomatically better were discharged by tenth day and reviewed every 2 weeks for the first month with prothrombin time and INR values and accordingly warfarin dose adjusted. DVT stockings were provided. The same treatment protocol was followed for all the patients and their response to therapy was analyzed. Statistical analysis was done using SPSS 23.0.

RESULTS

Out of the 30 patients included in the study, 24(80%) patients presented with edema of the limb and throbbing type of pain during walking. Out of the 30 patients. 11 were male and 19 were female. 37.5% of the patients were in the age group of 40-50years of age.

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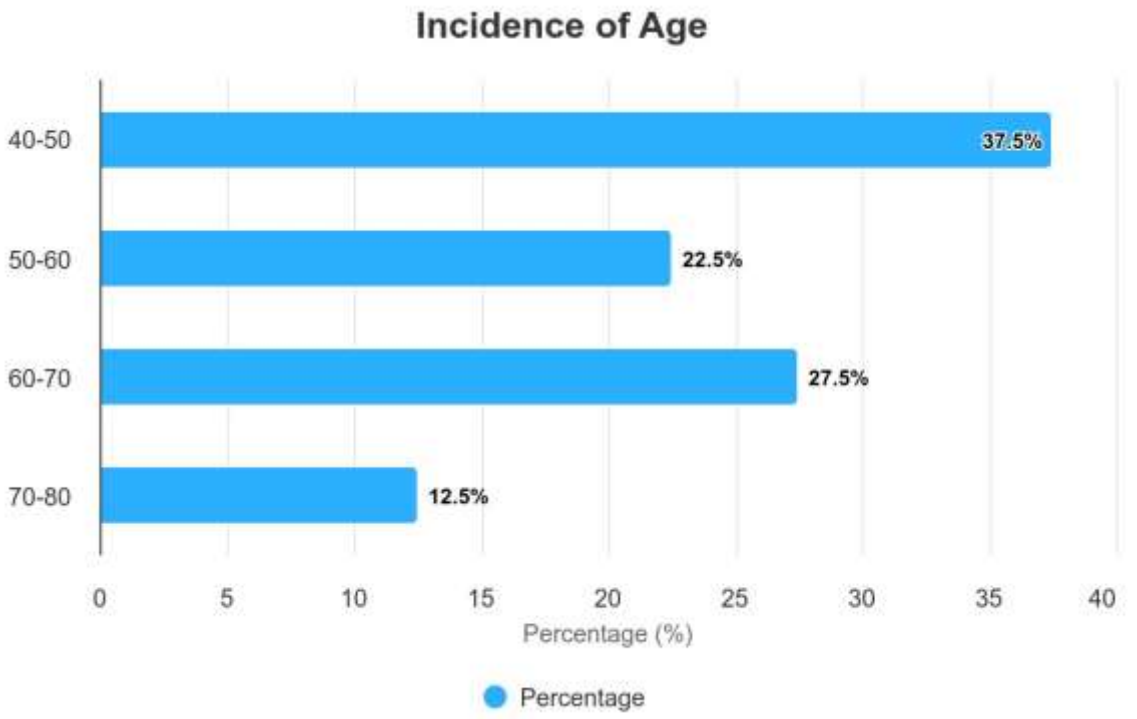

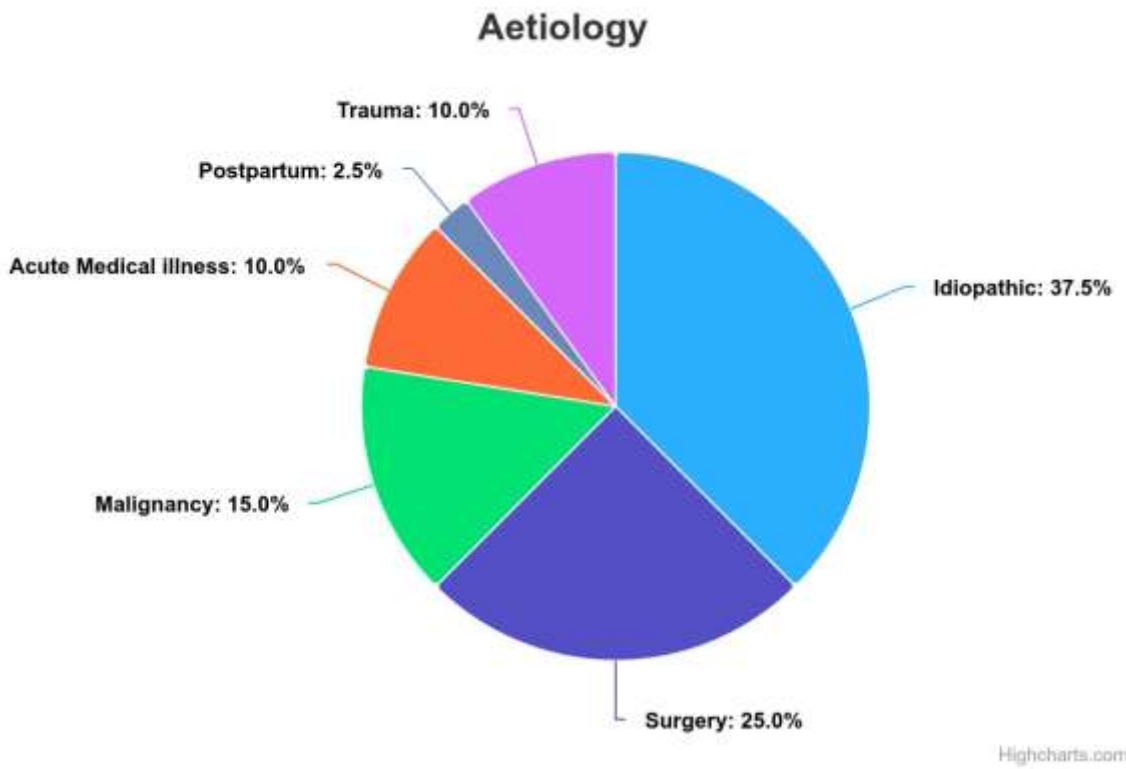

Out of 30 patients, 11 had an aetiology being idiopathic, 7 patients presented with DVT post surgery, 5 patients were diagnosed with malignant disease, 3 patients developed DVT following trauma and 3 patients had an acute medical condition. 1patient developed DVT Postpartum.

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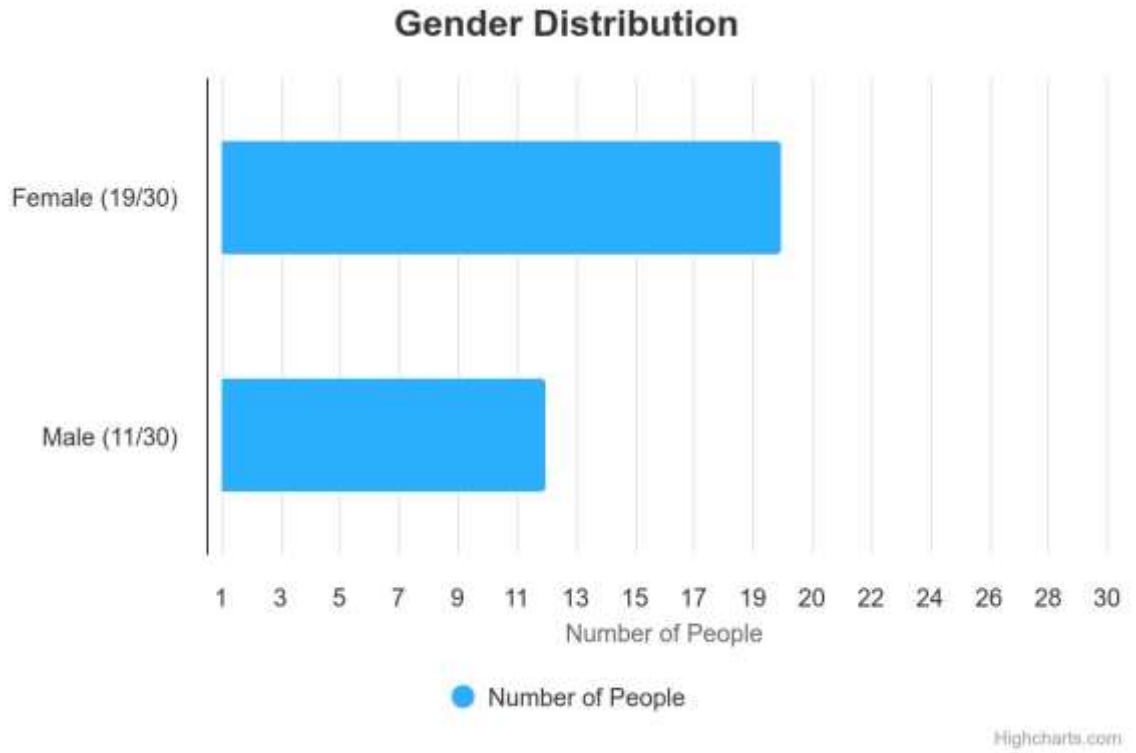

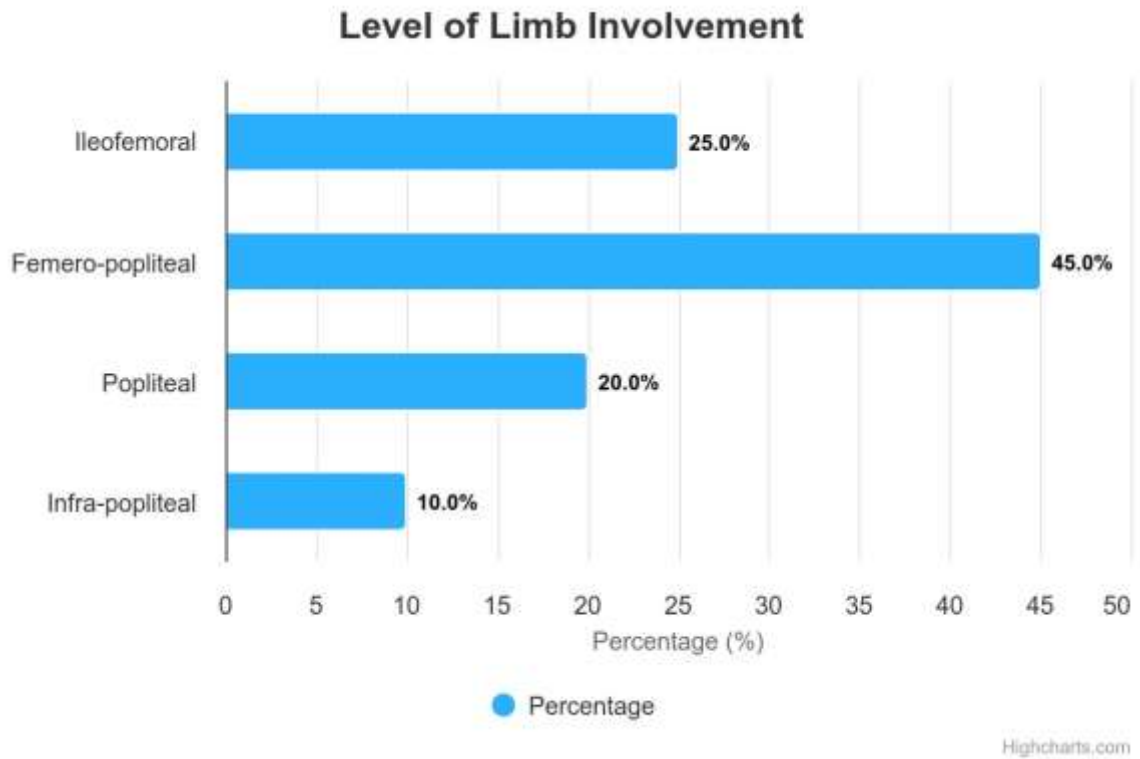

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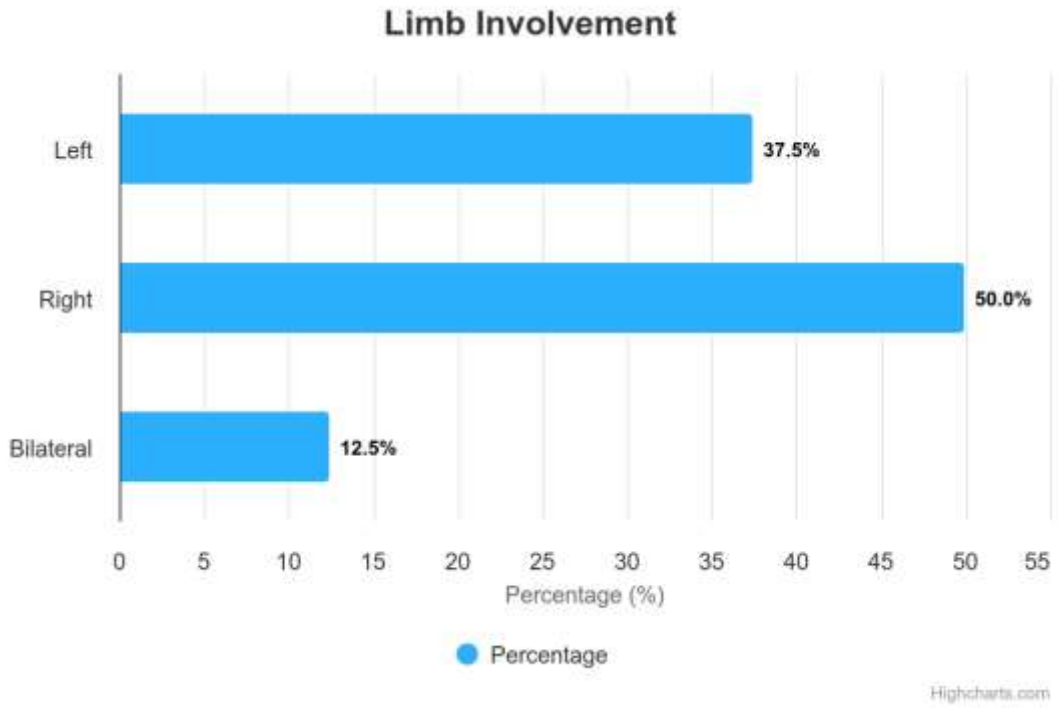

45% patients presented with DVT involving Femoro-popliteal vessel. 50% presented with right lower limb involvement. 37.5% patients presented with DVT in the left lower limb. 12.5% presented with bilateral limb involvement .

Of the 30 patients, 1 patients developed pulmonary embolism(most common complication of DVT). 5 patients had a previous history of DVT, who were on irregular anticoagulant therapy.

DISCUSSION

In our study.63% of the patients were females and 37.5% of the patients were in 40-50 years. A study done by Marc D et al which included 2218 patients showed that that the mean age of onset was 61.7+ 20.4 years of age."[6]

85% of patients presented with venous edema and venous claudication. The differential diagnosis of a swollen painful lower extremity is extensive and includes cellulitis, arthritis, lymph edema, arterial occlusion, muscle tear, varicose veins and chronic venous insufficiency. In a study done by haegar et al, calf pain and tenderness had the highest sensitivity whereas superficial venous dilatation had the highest specificity. Haegar concluded that clinical signs cannot be trusted to diagnose DVT. Barnes et al in their study explained the clinically silent nature of most thromboses as well as the non specific signs and symptoms." A study conducted by Wells et al demonstrated that combination of using clinical probability of deep vein thrombosis with ultrasound examination decreased the false positive or false negative diagnoses."[8]

In our study, 10(33%) patients presented with DVT following surgery. A study done in 1995 by Clagett GP et al demonstrated the incidence of deep vein thrombosis to be 19% after general

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surgery. The study also reported an even higher incidence of 50% for hip and knee arthroplasties.

Recurrent DVT occurred in 2 patients, also 15 patients had malignant disease causing DVT. Paolo Prandoni et al conducted a study to analyse the long term clinical course of DVT over a period of 8 years in previously diagnosed and treated DVT patients and found that the cumulative incidence of recurrence was 17.5% after 2 years and 30.3% after 8 years. "The presence of malignancy increased the risk of recurrence. Sproul EE et al conducted post-mortem studies in patients who died of cancer and demonstrated an increase incidence of undetected DVT in patients diagnosed with malignancy." [12]

1 out of the 30 patients developed pulmonary embolism. Murin et al found that 51,233 cases admitted in California hospitals, 30% had pulmonary embolism.[13]

LIMITATIONS

Limited sample size and lack of long term followup of the patients were the major limitations of our study.

CONCLUSION

DVT is a potentially fatal clinical condition which can lead to preventable morbidity and mortality." A proper understanding of the predisposing factors, pathophysiology, standard protocols to prevent DVT and optimal management are critical in reducing the incidence, morbidity and mortality of this often misdiagnosed condition. The goal of successful management of DVT include prevention of progression of thrombus, prevention of pulmonary embolism, recurrence and development of late complications like pulmonary hypertension and post thrombotic syndrome. Early mortality after Deep vein thrombosis is strongly associated with presentation as Pulmonary embolism, advanced age, malignancy and underlying cardiovascular disease. Hence appropriate prophylaxis in high risk patients has to be provided at the earliest.

Source of funding: self

Conflict of interest: none

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