

A COMPREHENSIVE STUDY ON INCIDENCE AND RISK FACTORS OF DEEP VEIN THROMBOSIS IN ASYMPTOMATIC PATIENT AFTER PROLONGED SURGERY

Dr. Salahudheen M,¹ Dr. Mohamed Fayiz P T,² Dr. Vineeth^{3*}

¹Assistant professor, Department of Surgery, Institute of integrated medical sciences, Government medical college, Palakkad, Kerala

²Assistant professor, Department of Surgery, Institute of integrated medical sciences, Government medical college, Palakkad, Kerala

³Senior resident, Department of Surgery, Institute of integrated medical sciences, Government medical college, Palakkad, Kerala

Corresponding Author: Dr. Vineeth, Senior resident, Department of Surgery, Institute of integrated medical sciences, Government medical college, Palakkad, Kerala.

ABSTRACT

Introduction: Deep vein thrombosis [DVT] is one of the most dreaded complications in post-operative patients as it is associated with considerable morbidity and mortality. **Aim:** To study about incidence and risk factors of the deep vein thrombosis in asymptomatic patients after prolonged surgery in our institution. **Method:** Study conducted on 100 patients in the department of General surgery, Government Stanley medical college from Nov 2016 to Aug 2017. All patients who underwent elective or emergency operations with duration more than 2 hours, admitted in Government Stanley Hospital were taken into study. All the patients are subjected to hand held doppler study of deep venous system of both lower limb and ileac system on post operative day 2, day 5 and day 7. Confirmation of DVT using duplex scan. **Result:** Out of 100 patients, incidence of asymptomatic DVT was found to be 2 percent. **Conclusion:** Out of 100 patients, incidence of asymptomatic DVT was found to be 2 percent. In both the cases duration of surgery was found to be more than three hours & patient was immobilized for three days. The risk factors were found to be prolonged duration of surgery and immobilization in both the cases.

KEY WORDS: Deep vein thrombosis, Asymptomatic, Surgery

INTRODUCTION

Deep vein thrombosis [DVT] is one of the most dreaded complications in post-operative patients as it is associated with considerable morbidity and mortality.¹ The prevalence of DVT in various series involving Western population ranges from 15% to 40% among patients undergoing major general surgical procedures.²

The autopsy studies document that 50% of all patients dying in hospital have DVT. Around 10–30% of these patients have pulmonary embolism secondary to proximal DVT.³ Majority of patients with postoperative DVT are asymptomatic. Its complications like pulmonary embolism can be lethal. As a sequel to DVT, venous valves become incompetent or destroyed, resulting in chronic venous hypertension and subsequent development of varicose veins, lipodermatosclerosis and venous ulcers causing considerable disability.⁴ It is believed that the DVT is less prevalent among the Indians and Asians.⁵ There have been very few studies on DVT in postoperative period in Asian patients. Hence this study intends to show incidence and risk factors of deep vein thrombosis in asymptomatic patients after prolonged surgery.

AIM

To study incidence and risk factors of the deep vein thrombosis in asymptomatic patients after prolonged surgery in our institution.

METHOD

This is a prospective time bound study conducted on 100 patients in the department of General surgery, Government Stanley Medical College from Nov 2016 to Aug 2017. All patients who underwent elective or emergency operations with duration more than 2 hours, admitted in Government Stanley Hospital were taken into study. Patient who underwent cardiac or vascular operations, Patients who have symptoms suggestive of DVT such as unilateral lowerlimb edema and calf muscle pain, Patients who ever took anticoagulant such as warfarin, aspirin and clopidogrel during one week before hospital admission, Patients who suffered from pre-operation DVT, Uncorrectable coagulopathy and Patients who were on heparin ruled out from the study. Detailed history was taken. Hematological investigations were done.

All the patients are subjected to hand held doppler study of deep venous system of both lower limb and ileac system on post operative day 2, day 5 and day 7. Confirmation of DVT using duplex scan.

RESULTS

In our study we included equal number of male and females.

The predominant age group was 40-59 years constituting 37%. Followed by 20-39 years constituting 36%.

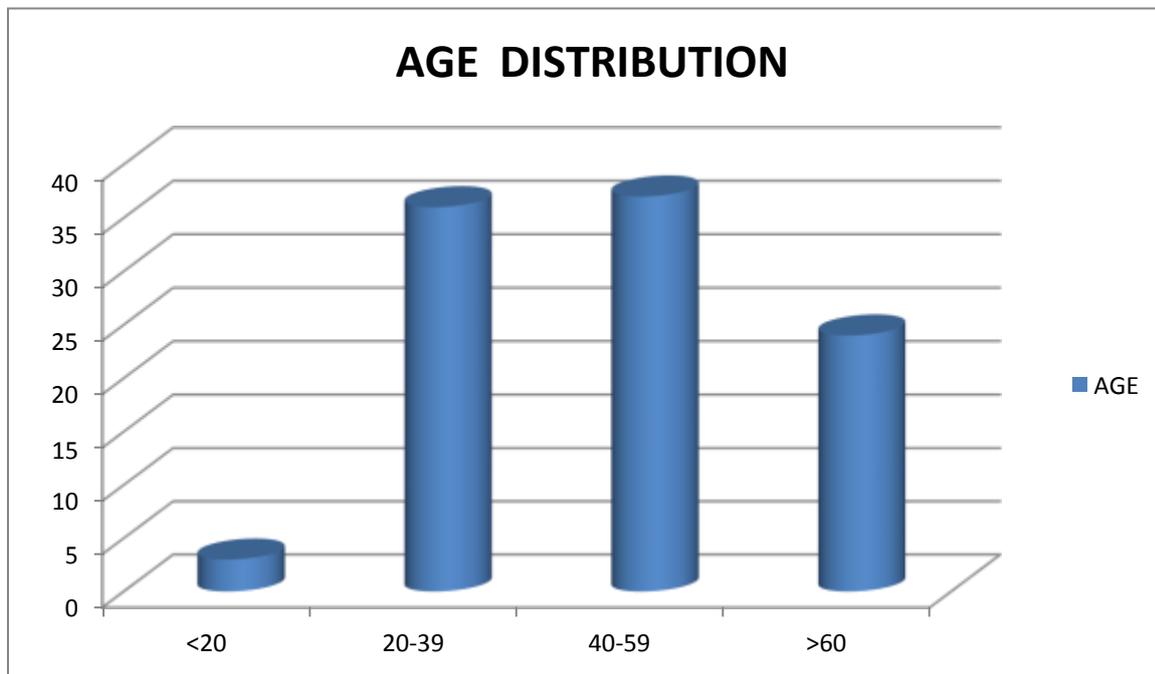


Fig. 1 Age distribution

Table-1 Comorbid Conditions

CONDITIONS	NO OF PATIENTS
DIABETES	31
HYPERTENSION	17

CAD	2
COPD	2
RENAL DISEASES	3
LIVER DISEASE	2
PSYCHIATRIC	1

31% of patients were diabetic on insulin and 17% were hypertensive on treatment.

Tab. 2 Clinical Findings

Nature of Anaesthesia	No.	%
SPINAL	16	16%
ETGA	68	68%
ETGA-CV	16	16%
Nature of Surgery		
Elective	74	74%
Emergency	26	26%
Duration (min.)		
120-180	85	85%
180-240	13	13%
>240 mts	2	2%

In our study 74% elective cases and rest were emergency. 85% surgeries were finished within 3 hours. 2% surgeries prolonged more than 4 hours. In 25% surgeries intra operative blood transfusion was given. 33% received injection low molecular weight heparin as prophylaxis.

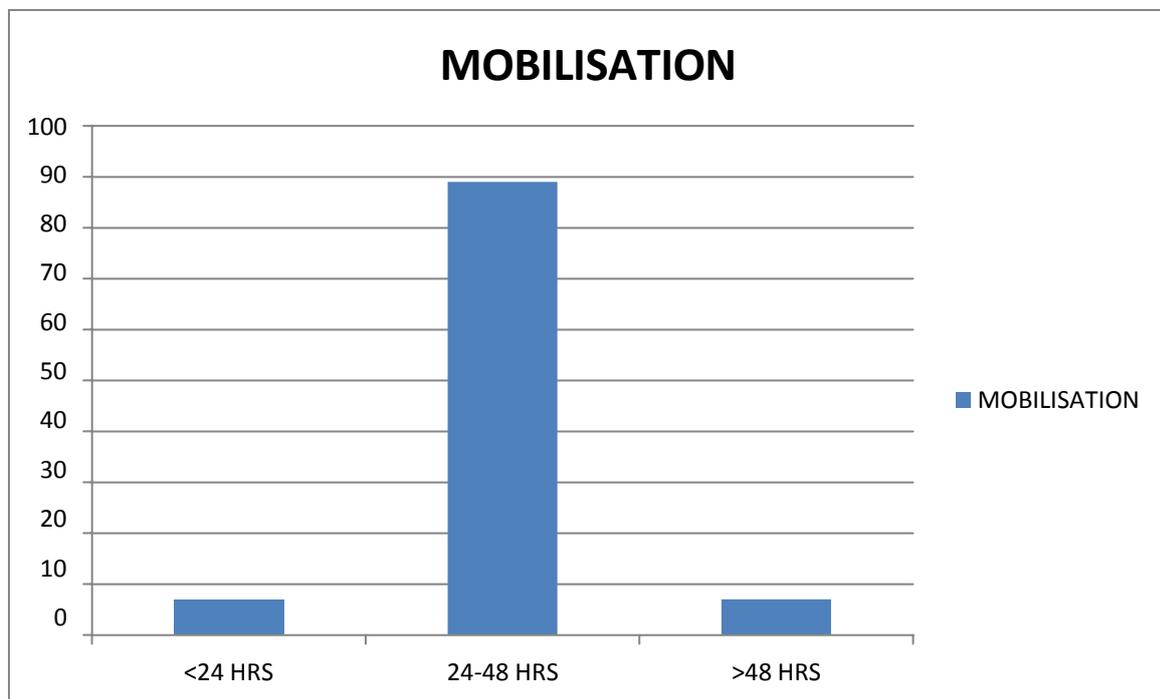


Fig. 2 Mobilisation

Two patients out hundred developed asymptotic DVT on POD 7.

DISCUSSION

Out of 100, 21 patients were suffering from malignancies. Majorities were ca breast and

gastrointestinal malignancies. Out of 74 elective cases 25.67% were laparoscopic surgeries .In our institution major laparoscopic procedure is lap cholecystectomy. It also reflected in my study 84.21% laparoscopic surgeries were laparoscopic cholecystectomy.

In our study 2 patients develops asymptomatic deep vein thrombosis on day 7. In both the cases duration of surgery was found to be more than three hours & patient was immobilized for three days which is similar to other studies.⁶⁻⁸ The details were:

1. A 27 year old male patient admitted in emergency with acute abdominal pain, on evaluation found to have ileal perforation with pyoperitoneum, underwent primary closure with covering ostomy. Patient was on post op ventilator support for three days and gradually weaned off. Meanwhile patient improved of sepsis and recovering. On 7th POD, hand held Doppler of both lower limbs done as a part of the study which revealed thrombosis of right popliteal vein, confirmed by duplex scan. Patient as already on DVT prophylaxis which was changed to treatment doses after vascular consult. Patient developed pulmonary embolism on 10th POD and treated accordingly.

2. A 76 year old diabetic patient underwent bilateral hernioplasty. Duration of surgery was 180 minutes and blood loss approximated to 150 ml. Patient was immobilized for 48 hours and he was not on any DVT prophylaxis. He was found to have thrombosis of right lower limb venous system upto femoral vessels. Patient was started on treatment after vascular opinion and recovered uneventfully.

Recommendations: For patients who undergo surgery for prolonged duration (especially > 3 hours) and prolonged immobilization (> 2 days), it is recommended to screen them with Doppler for incidence of DVT along with appropriate DVT prophylaxis in the post op period to avoid morbidity & mortality associated with unforeseen and asymptomatic deep vein thrombosis.

CONCLUSION

In our study incidence of asymptomatic DVT was found to be 2 percent. The risk factors were found to be prolonged duration of surgery and immobilization in both the cases.

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