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Incidence and Prevention of Deep  
Vein Thrombosis Using  
Thromboprophylaxis in Total Knee  
Replacement: A Prospective Clinical  
Study

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# CONFLICT OF INTEREST

- NONE

- Deep vein thrombosis (DVT), a common type of venous thrombosis, and its complication, pulmonary embolism (PE), can be life threatening. It is associated with increased morbidity and mortality.

- The association between total knee replacement(TKR) and Venous thromboembolism (VTE) has been recognized for almost a century. After a TKR, the incidence of VTE varies from 7% to 58%, depending on patient demographics, mechanism of injury, diagnoses, and type of VTE prophylaxis used

- Different types of VTE prophylaxis used are mechanical or pharmacologic.
- Supported by high-quality evidence, pharmacologic thromboprophylaxis is recommended for high risk patients .

- This prospective study was done with a primary aim to determine the incidence and nature of DVT in TKR patients and to assess the superiority of mechanical thromboprophylaxis+ pharmacologic prophylaxis's as compared pharmacologic prophylaxis's alone on the incidence of DVT in TKR patients

- This prospective observational study included 336 patients age 58 years or older who presented with TKR admitted into the orthopaedic unit. Those fulfilling inclusion criteria underwent lower-limb Colour doppler ultrasound at 48 hrs than 1 week during their hospital course to diagnose DVT further follow up ultrasound depend upon the clinical signs .



- Based on the Venous Thromboembolism ( VTE ) Risk assessment tool and bleeding Risk assessment Group 1 was given mechanical prophylaxis in form of an intermittent pneumatic compression device (IPC) along with pharmacologic prophylaxis ( low-molecular-weight heparin (LMWH) or unfractionated heparin (UFH) and Group 2 was given pharmacologic prophylaxis alone.

Group 1 : Total 164 patients received ( IPC+ LMWH) and only 3 ( 1.82%) patients developed DVT

Group 2: Total 172 patients (LMWH) and 24 (13.9%) patient develop DVT despite prophylaxis's

- Group 1 vs Group 2 shows significant difference with P value  $< 0.05$ .

- Hence it can be concluded that though DVT events despite prophylaxis reflect questions about the preventability of post-injury DVT. But in our preventive clinical study Mechanical prophylaxis as an adjunct to Pharmacologic prophylaxis's helps in reduction of incidence of DVT significantly so we recommend the usage of IPC along with Pharmacological prophylaxis in patients of total knee replacement.