

# INCIDENCE OF DEEP VEIN THROMBOSIS IN PATIENTS WITH PELVIC AND ACETABULUM FRACTURES IN UNIVERSITI SAINS MALAYSIA: IS PREOPERATIVE SCREENING WITH DOPPLER ULTRASOUND NECESSARY?

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**Introduction:** Pelvic and acetabular fractures commonly occur due to high impact injury putting patients at higher risk of developing thromboembolic diseases such as deep vein thrombosis and pulmonary embolism. This study was performed to determine the incidence of lower extremity deep vein thrombosis in patients with pelvic and acetabular fractures to determine the importance of preoperative screening with Doppler ultrasound prior to surgical intervention.

**Methodology:** This was a retrospective study involving 78 patients admitted to Hospital Universiti Sains Malaysia with pelvic and acetabulum fractures requiring surgical intervention from January 2015 till December 2019. All patients planned for surgical intervention were screened preoperatively with Doppler Ultrasound to detect for lower limb DVT. These were compared with incidence of lower limb DVT post operatively

**Discussion:** There were 78 patients included in this study made up of 30.8% females and 69.2% male patients. Preoperative screening with Doppler ultrasound showed 3 (3.8%) patients were diagnosed with lower limb DVT whereas 1 (1.3%) was symptomatic and diagnosed with PE. Postoperatively, 1 patient developed DVT and 1 patient developed PE. Both of these patients were negative for DVT preoperatively. The sensitivity and specificity (with 95% confidence interval) of Doppler Ultrasound was 75% (19.41% to 99.37%) and 100% (95.01% to 100.00%) respectively. The positive predictive value was 100% and negative predictive value was 98.6% (92.95% to 99.75%).

**Conclusion:** Our study found that the incidence of DVT in patients with pelvic and acetabular fractures requiring operative intervention were low as compared to other previous studies but significantly important. Preoperative screening for lower limb DVT is important to prevent further morbidity and mortality. Apart from initiation of thromboprophylaxis, we recommend Doppler ultrasound as part of compulsory preoperative screening as it is readily available, cost effective and efficient as it has a sensitivity of 75.0% and specificity of 100.0%.