SPS.1.3 Early initiation of chemical venous thromboembolism (VTE) prophylaxis following traumatic spleen injury is safe and effectively reduce VTE events

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Aims: Within the first 48 hours (h) of trauma, hyper-coagulation state occurs which put trauma patients at risk of developing deep vein thrombosis (DVT) and pulmonary embolism (PE), leading to an increase rate of mortality. Non operative management (NOM) is now the standard of care for traumatic splenic injuries (TSI). However, timing of initiating chemical venous thromboembolism (VTE) prophylaxis, heparin or low molecular weight heparin (LMWH), remains controversial due to concern of rebleeding. This study examines the safety and timing of initiating VTE prophylaxis post TSI.

Methods: Patients with TSI were identified from prospectively maintained Trauma Audit and Research Network (TARN) database from 2015–2020 in a single tertiary trauma centre. Clinical and radiological information were collected retrospectively. TSI were graded using AAST classification. VTE prophylaxis initiation were categorised as not given, <48h and >48h following the injury.

Results: In total 102 patients were included. Fifty-three percent (54/102) had Grade 3 injury and above. Majority 90/102 (88%) of patients were treated non-operatively. VTE prophylaxis was not given for 31 (30.4%), initiated for 37 (36.3%) within 48h and given to 34 (33.3%) patients after 48h. Seven (7%) patients developed thromboembolic events, majority of which (6/7) received VTE prophylaxis after 48h. None of the patients who received VTE prophylaxis had rebleeding.

Conclusions: This study showed that early initiation of chemical VTE prophylaxis (<48h) is safe, resulted in lower incidence of DVTs/PEs without increase risk of bleeding. Results from this study supports recommendation from other studies to initiate chemical VTE prophylaxis after TSI as early as 24h post injury.