DEEP VENOUS THROMBOSIS IN BURN PATIENTS: A RETROSPECTIVE ANALYSIS

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Background – Objectives

Deep venous thrombosis (DVT) is a well-known cause of major morbidity in the surgical patient population. The objective of this retrospective study is to evaluate the incidence of DVT in our burn centre, identify burn-related risk factors as well as risk factors for bacterial surinfection of DVT.

Methods

All adult burn patients, with a total body surface area (TBSA) more than 10%, diagnosed with DVT and admitted between 2008 and 2016 in our burn centre were retrospectively evaluated.

Results

During the study period 611 patients were admitted to the burn unit. 27 patients were diagnosed with DVT (4.4%) DVT was associated with a inadequate daily dose of prophylactic LMWH ($P < 0,01$). In all patients a central line was located on the DVT location, with a more frequent femoral site (18/27, 67%).

The analysis included demographics, location of central lines, number of surgeries, pre-existing medical conditions and inhalation injury. All patients received either routine weight-adjusted subcutaneous low-molecular weight heparin (LMWH) prophylaxis or intravenous heparin. A continuous heparin infusion with a targeted activated partial thromboplastin time (aPTT) of 1,5 to 2 times the baseline aPTT value or enoxaparine 0,5 mg/kg was considered an adequate prophylactic dose of anticoagulant. Patients were matched on age, gender and TBSA with our general burn unit population.

Patient characteristics			
	DVT group (n = 27)	Control group (n = 27)	P - value
Age (mean/years)	51.5	51.6	0.98
TBSA (mean/%)	28.1	26,5	0.65
Male sex (n (%))	20 (74.1)	16 (59.3)	0.55
Length of stay (days) (mean (IQR))	53.9 (11 – 151)	26.8 (1 – 79)	< 0.01
Mortality (n (%))	1 (3.7)	3 (11.1)	0.34
Inhalation trauma (n (%))	12 (44.4)	6 (22.2)	0.15
Pre-existing cardiovascular condition (n (%))	7 (25.9)	4 (14.8)	0.50

Conclusion

This study stresses the importance of routine and correctly dosed LMWH administration in burn patients. It highlights the presence of a central line as a major risk factor and the additional hazard of thrombus surinfection.