





Upper extremity deep vein thrombosis (Paget-Schroetter disease) – a case series

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Introduction: Approximately 10% of all cases of deep vein thrombosis occur in the upper extremities (UEDVT). There are two types of UEDVT, primary exertional thrombosis, caused by excessive and repetitive arm movements that are often triggered by great exertion (Paget-Schrötter disease), and secondary, usually associated with central venous catheters and malignancies. Compression ultrasound is the most used imaging initial test for the diagnosis of UEDVT. The initial treatment is anticoagulation. Although traditionally LMWH in a therapeutic dose is provided, followed by a vitamin K antagonist, studies have been conducted that have proven that direct oral anticoagulants (DOACs) are as safe and effective as LMWH and/or warfarin.^{1,2} The aim of the study was to identify patients with UEDVT in our population, find potential causes, monitor treatment and follow up of patients.

Patients and Methods: During the period 2021-2024, a total of 261 people with deep vein thrombosis were hospitalized at the Department of Vascular Diseases, Clinic for Cardiovascular diseases, University Hospital Centre "Sestre milosrdnice".

Results: Out of the total number of hospitalized patients with DVT, there were 13 hospitalized patients with UEDVT (5%). Mean age was 43 (37-49) years and five (38%) patients were female. Two patients had provoked UEDVT of brachial veins because of intravenous cannula insertion and one patient had provoked UEDVT of brachial and axillary vein following humerus fracture surgery. The remaining 10 patients had a history of marked exertion of the affected arm (sport and professional activity, Paget-Schrötter disease). All patients were treated initially with LMWH, followed by DOACs for up to six months.

Conclusions: In our study sample most patients with effort thrombosis were young male adults. All patients were treated with DOACs and had no recurrence of UEDVT nor bleeding in follow up period.

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LITERATURE

1. Kakkos SK, Gohel M, Baekgaard N, Bauersachs R, Bellmunt-Montoya S, Black SA, et al. European Society for Vascular Surgery (ESVS) 2021 Clinical Practice Guidelines on the Management of Venous Thrombosis. *Eur J Vasc Endovasc Surg.* 2021 Jan;61(1):9-82. <https://doi.org/10.1016/j.ejvs.2020.09.023>
2. Vedovati MC, Tratar G, Mavri A, Mazzetti M, Salazar Rosa V, Pierpaoli L, et al. Upper extremities deep vein thrombosis treated with oral direct anticoagulants: A prospective cohort study. *Int J Cardiol.* 2021 Sep 15;339:158-163. <https://doi.org/10.1016/j.ijcard.2021.07.005>