

## Venska tromboza: prikaz Registra liječenih u Zavodu za bolesti krvnih žila Kliničkog bolničkog centra Zagreb

### Registry of deep vein thrombosis patients hospitalized at the Department of Vascular Diseases, University Hospital Centre Zagreb

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Registar „Venska tromboza“ obuhvaća i evaluira sve bolesnike s dubokom venskom trombozom (DVT) liječene u Zavodu za bolesti krvnih žila Kliničkog bolničkog centra Zagreb i to od 1. siječnja 2016. godine. Prikazat će se rezultati cjelokupnog registra u usporedbi s već prikazanim na 11. kongresu Hrvatskog kardiološkog društva<sup>1</sup>, a koji su se odnosili na pilot projekt u razdoblju od 1. siječnja do 1. listopada 2016. godine.

Registar obuhvaća sveukupno 305 bolesnika. Parametri koji su obuhvaćeni registrom odnose se na etiologiju venske tromboze, lokalizaciju bolesti, komplikacije tijekom liječenja, način liječenja u akutnoj fazi i u fazi produljenog liječenja. Izdvojeno iz ukupnih podataka zabilježen je porast oboljelih i liječenih kojima je venska tromboza prethodio kirurški zahvat (8,8 %), a u ukupnoj populaciji liječenih pojava venske tromboze nakon prethodnog kirurškog zahvata je 23 %.

Inicijalno liječenje DVT-a u akutnoj fazi (slika 1) izrazito je poraslo u korist primjene novih oralnih antikoagulansa (NOAC) (15,5 %) jer su u prvih 10 mjeseci pilot projekta svi bolesnici bili liječeni primjenom niskomolekulskog heparina (LMWH) i varfarina, dok je u proteklom dvogodišnjem razdoblju taj broj smanjen. U produljenom liječenju (slika 2) primjena LMWH-a je porasla za 12,2 %, primjena NOAC-a za 27,4 %, dok je primjena standardnog

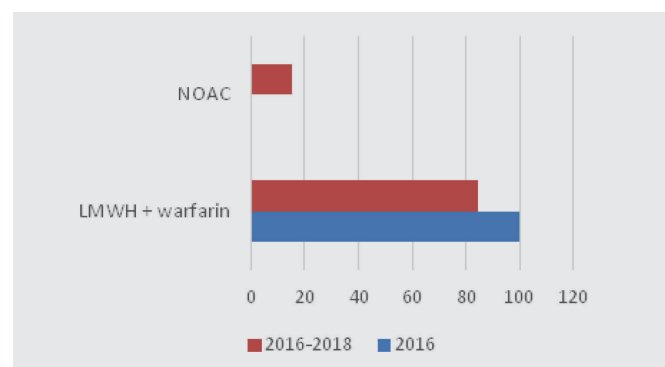
Registry "Deep vein thrombosis" includes and evaluates all patients with deep vein thrombosis (DVT) treated at the Department of Vascular Diseases, University Hospital Centre Zagreb from 1<sup>st</sup> January 2016. The results of the registry will be presented as compared to the results presented at the 11<sup>th</sup> Congress of Croatian Cardiology Society<sup>1</sup>, which were related to the pilot project in the period of 1<sup>st</sup> January until 1<sup>st</sup> October 2016.

The registry includes a total of 305 patients. Parameters covered by the registry relate to the etiology of venous thrombosis, disease localization, complications during treatment, treatment in the acute phase and in the advanced treatment phase. Out of the total data, we highlight an increase of the patients with venous thrombosis related by a surgical procedure (8.8%). In the total population incidence of venous thrombosis after the previous surgical procedure was 23%.

The initial treatment of DVT in the acute phase (Figure 1) increased significantly in favor of the use of novel oral anticoagulants (NOAC) (15.5%) because in the first 10 months of the pilot project all patients were treated with low molecular weight heparin (LMWH) and warfarin, while in the past 2 years this number was reduced. In the prolonged treatment (Figure 2) the use of LMWH increased by 12.2%, the use of NOAC by 27.4%, while the application of the

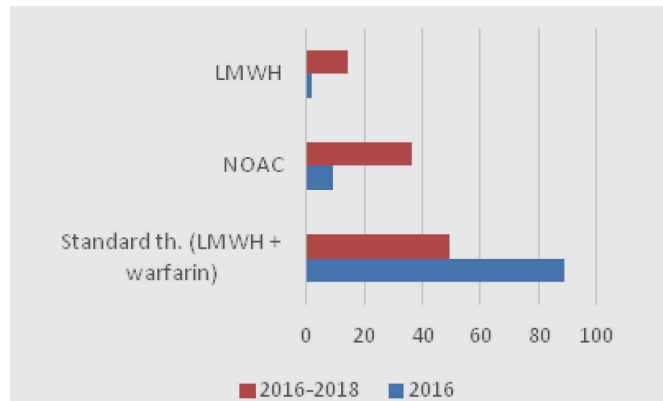
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**FIGURE 1. Treatment options during 2016 compared with 2016-2018 in the acute phase of treatment.**

NOAC = novel oral anticoagulants; LMWH = low molecular weight heparin.



**FIGURE 2. Treatment options during 2016 compared with 2016-2018 in the extended treatment.**

LMWH = low molecular weight heparin; NOAC = novel oral anticoagulants; standard th. = standard therapy.

načina liječenja varfarinom zabilježila pad od 39,6 %. Pojava krvarenja je smanjena za 3 %.

U razdoblju od 2 godine način liječenja venske tromboze značajno je promijenjen u korist liječenja novim oralnim antikoagulansima što je rezultiralo i porastom broja vanbolničkog liječenja od čak 15,5 %, uz smanjenje pojave krvarenja za 3 %.

standard treatment method to warfarin recorded a decline of 39.6%. The occurrence of bleeding is reduced by 3%.

In the period of 2 years, the method of treating venous thrombosis has significantly changed in favor of treatment with new oral anticoagulants, resulting in an increase in the number of outpatient treatment by 15.5%, with a decrease in the occurrence of bleeding by 3%.

#### LITERATURE

1. Puljević M, Mioviski Z, Banfić Lj, Vrkić Kirhmajer M, Krpan M, Putarek K, Pašalić M. Croatian Registry of Patients with Deep Vein Thrombosis: A Pilot Study. *Cardiol Croat.* 2016;11(10-11):521. <https://doi.org/10.15836/ccar2016.521>