

Large single center registry of anticoagulation therapy in atrial fibrillation: who is protected among a thousand patients?

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KEYWORDS: atrial fibrillation, thromboembolic protection, anticoagulation.

CITATION: *Cardiol Croat.* 2021;16(1-2):58. | <https://doi.org/10.15836/ccar2021.58>

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Background: Patients with atrial fibrillation (AF) and high thrombotic risk should be protected from thromboembolic events with adequate oral anticoagulation therapy. In Croatia, direct oral anticoagulant drugs (DOACs) are only partially reimbursed whereas optimal dosing of vitamin K antagonist (VKA) is hard to obtain.¹ **Aim:** To investigate differences in characteristics and clinical outcomes of patients with AF exposed to different types of anticoagulant drugs.

Patients and Methods: We retrospectively analyzed 1000 consecutive patients with non-valvular AF hospitalized in our institution in a period from 2013 to 2018. Patients were followed-up for a median time of 42 months.

Results: DOAC penetration as initial anticoagulation therapy increased from 37% to 58% (P=0.002 for trend). Patients anticoagulated with VKA had more unfavorable thromboembolic and bleeding risk factors than DOAC patients, whereas risk factors were similarly distributed among three DOAC subgroups. Only 37% of patients using VKA had optimal dosing control, whereas three groups of DOAC patients had optimal dosing in >92% of cases. There were significantly more thromboembolic and bleeding events among patients with poorly controlled VKA therapy in comparison to patients exposed to DOACs or optimal VKA (15% vs 3% thrombotic events, and 14% vs 4% bleeding events, respectively). After adjusting for all factors unbalanced at baseline and for optimal dosing, significant difference in thrombotic and bleeding events between VKA and DOACs was lost. However, patients who received VKA at baseline, irrespective of optimal dosing, had higher mortality even after adjusting for all factors unbalanced at baseline. Permanent discontinuation of therapy was very rare, whereas 18% of patients experienced therapy switch. Only 46% of patients with poorly controlled VKA therapy, and only 24% of patients who experienced a thrombotic event while actively taking VKA, experienced a therapy switch immediately after the event.

Conclusion: Despite a steady trend of increased DOAC use in AF, higher risk patients still receive VKA relatively more often possibly due to socio-economic reasons. They also rarely obtain optimal dosing control, rarely switch therapy after events, and have significantly shorter survival compared to patients on DOACs.

RECEIVED:
December 6, 2020

ACCEPTED:
December 18, 2020



LITERATURE

1. López-López JA, Sterne JAC, Thom HHZ, Higgins JPT, Hingorani AD, Okoli GN, et al. Oral anticoagulants for prevention of stroke in atrial fibrillation: systematic review, network meta-analysis, and cost effectiveness analysis. *BMJ.* 2017 Nov 28;359:j5058. <https://doi.org/10.1136/bmj.j5058>