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Short Communication

A Short Communication on Trends of Antithrombotic Treatment in Atrial Fibrillation Patients Undergoing Percutaneous Coronary Intervention in GReek-AntiPlatElet Atrial Fibrillation (GRAPE-AF) Registry

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DESCRIPTION

Patients with Atrial Fibrillation (AF) undergoing percutaneous Coronary Intervention (PCI) represent a high-risk population with an increased ischemic as well as bleeding risk. Aiming to counterbalance thromboembolic risk associated with stent implantation and AF, as well as to mitigate bleeding risk associated with the combination of anthithrombotic drugs, identifying the optimal treatment strategy for this subset of patients remains a challenge in everyday clinical practice [1].

In the light of major trials' results, such as PIONEER-AF PCI (An Open-Label, Randomized, Controlled, Multicenter Study Exploring Two Treatment Strategies of Rivaroxaban and a Dose-Adjusted Oral Vitamin K Antagonist Treatment Strategy in Subjects With Atrial Fibrillation Who Undergo Percutaneous Coronary Intervention) [2] and REDUAL-PCI (Randomized Evaluation of Dual Antithrombotic Therapy With Dabigatran vs. Triple Therapy With Warfarin in Patients With Nonvalvular Atrial Fibrillation Undergoing Percutaneous Coronary Intervention) [3], highlighting the superiority of Dual Antithrombotic Therapy (DAT) compared to Triple Antithrombotic Therapy (TAT), our team of investigators initiated GReek-AntiPlatElet Atrial Fibrillation (GRAPE-AF) registry, an observational, nationwide study of AF patients undergoing PCI in 18 Greek hospitals [4]. With the view to estimate the extent of early adoption of new evidence regarding antithrombotic treatment, our study identified trends as well as factors affecting treatment decision at hospital discharge in 654 patients, over the period of 2017-2019 [5].

Our results indicated a strong shift towards the use of non-vitamin K antagonist oral anticoagulants (NOACs) instead of vitamin K antagonists (VKAs) (92.9% vs. 7.1%), as well as a rather balanced rate of DAT vs. TAT adoption (49.2% vs. 49.9%) at discharge. Factors affecting decision towards TAT included dyslipidemia, insulin-dependent diabetes mellitus, history of myocardial infarction and Acute Coronary Syndrome (ACS) at presentation, whereas on the other hand, the use of NOACs or ticagrelor as part of the treatment regimen were predictive of DAT adoption. Furthermore, our study identified regional trends regarding the choice of treatment regimen, with some health regions showing preference for DAT over TAT, as well as temporal trends regarding specific NOAC agents' administration, with apixaban rates nearly tripling following the release of AUGUSTUS (Study of Apixaban in Patients With Atrial Fibrillation, Not Caused by a Heart Valve Problem, Who Are at Risk for Thrombosis Due to Having Had a Recent Coronary Event, Such as a Heart Attack or a Procedure to Open the Vessels of the Heart) trial (36.8% vs. 12.3%, P<0,001) [6].

Our "real-world" data analysis indicated an early adoption of DAT with a NOAC strategy by a great number of Greek physicians, while, notably, even in cases where TAT was the strategy of choice, its duration was limited to 1-3 months in the vast majority of cases. Although DAT at discharge was not the default strategy suggested by European guidelines at the time of our study period, its superiority was acknowledged in the lately published ESC guidelines, [7,8] with prolonged use of TAT (up to 1 month) confined to selected high-ischemic risk cases. Indeed, in cases where the risk of major adverse cardiovascular events (MACE), and especially stent thrombosis, is high, such as complex PCI cases or patients with an ACS, TAT of a short duration may represent a reasonable approach [9]. Although data from major randomized trials did not indicate a compromise of efficacy with DAT, [10] there is still concern whether this is also the case in "real life", with an increasing rate of high ischemic risk cases, like ST-elevation myocardial infarction (STEMI) or complex PCIs.

Regarding decision-making, factors such as dyslipidemia, diabetes, prior MI and ACS at presentation that were shown to favor TAT adoption in our study, are factors associated with a higher risk of atherothrombotic complications, possibly explaining the tendency of physicians to prescribe a more potent antithrombotic therapy regimen. Moreover, although the use of more potent P2Y inhibitors instead of clopidogrel as part of DAT is underrepresented in randomized trials, about a quarter of patients in our registry were treated with DAT with ticagrelor, a scheme that could represent an

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alternative to TAT in high ischemic risk situations.

CONCLUSION

To sum up, our study underscores the need to find the optimal antithrombotic treatment strategy in the fairly challenging clinical scenario of AF patients undergoing PCI through a personalized approach, taking into consideration patient's history, comorbidities, type of coronary syndrome at presentation as well as other socioeconomic factors; thus, a holistic approach to the management of such patients seems not only reasonable but imperative. Through 1-year follow-up of patients recruited in GRAPE-AF registry, our team will be able to provide "real-world" evidence regarding safety and efficacy outcomes of antithrombotic regimens, comparing schemes of different type and duration.

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