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Dual antiplatelet therapy guidelines 2019

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Lip GYH, Collet JP, Haude M and al. Treatment of antithrombotic therapy in ACS and/or PCI-treated AF patients. 2018.01.18.18.18.18.18.18.01.18.18.18.18.01.18.18 10.1093/eurheartj/ehy396. - No, no, no - No, no, no, [Google Scientist] Double platelet therapy has been widely studied over the past two decades, giving the possibility of evidence-based recommendations. The ESC/EACTS guidelines for DAPT in CAD provide guidance on the type and duration of DAPT, maintaining patient-centered focus. A patient-specific and dynamic assessment of ischemic and bleeding risks is key to optimal treatment decisions. Keywords: DAPT, clopidogrel, the combination of prasugrel, ticagrelor, PRECISE-DAPT, ESC, guidelines, PCI, anticoagulant double platelet therapy (DAPT), aspirin and P2Y12 inhibitors was first studied more than 20 years ago in patients who undercut coronary artery intervention (PCI) and showed superiority to oral anticoagulant [1]. DAPT is now one of the most widely used treatments for secondary prevention in patients with coronary artery disease (CAD) or who have had coronary stent implantation [2]. Over the past two decades, it has been found that the introduction and extension of the use of new and more effective P2Y12 inhibitors [3, 4] [5.6] gradually reduces the risk of recurrent ischemic coronary events [7, 8]. At the same time, longer or more effective treatments were associated with an increased risk of hemorrhaic complications with higher morbidity and mortality [9]. The need for informed decision-making and the huge amount of high-quality scientific data collected in recent years have resulted in the creation of a separate document summarising the evidence and providing pragmatic guidance on everyday clinical practice (Figure 1) [2. 10, 11]. full-screen 1. The targeted update on the duration of the DAPT was made in a joint effort between the European Society of Cardiology (ESC) and the European Cardio-Thoracic Surgery (EACTS) working group. Its aim was to provide a novel approach to decision-making on the type and duration of dapt, based on a four-layer system focusing on the personalization of treatment (Figure 2). This is hierarchically based on the type of intervention (PCI, coronary artery bypass graft or medical treatment alone, without revascularisation), indication of treatment (stable coronary artery disease or ACS), type of device used for PCI (drug-eeling stent (DES), bare metal stent (BMS), biologically resorbing scaffolding (BVS), drug-eeling balloon (DEB)) and, finally, estimated bleeding risk. One of the main drivers of dapt duration is the indication of treatment [12, 13]. Patients with ACS have a higher risk of ischemia and are at higher ischemic risk for a longer period of time after the index event, which justifies more effective and prolonged anti-platelet treatment [13-15]. Unlike in the past, the choice between BMS and DES no longer leads to differences in treatment duration [2, 16, 17]. In fact, des is recommended as the default management strategy and its specific preference for BMS is not the expected Duration. New recommendations have now been made for BVS, which are recognized as more trombotogenic devices requiring longer treatment [18]. Bleeding risk is officially included in the treatment algorithm as the final decision-making point for the duration of treatment, based on the assumption that patients considered to be at higher risk of bleeding should receive shorter treatment. Figure 2 Duration of double antiplatic treatment in patients with coronary artery disease. Finally, the document discusses for the first time the indications for an extension of the DAPT beyond 12 months on the basis of the evidence submitted by the DAPT and PEGASUS studies [5,6]. The conclusion of this document is that in patients who do not have a high risk of bleeding, who tolerated treatment without bleeding for the first 12 months and who had an increased risk of ischemia, prolongation of DAPT beyond 12 months may be reasonable. Among those with a history of myocardial infarction (AI), for whom prolongation of treatment can be considered as a study, 60 mg b.i.d. ticagrelor may be preferred for clopidogrel or prasugrel, as a better efficacy/safety profile observed in DAPT extended studies was observed [6, 19, 20]. The ESC/EACTS guidelines for DAPT place particular emphasis on the personalization of treatment. Several studies have studied the effect of DAPT duration in several subgroups and can potentially be used to inform the personalization of treatment based on the characteristics of a patient. The factors identified in these studies were clinical presentations at the time of the index event, the complexity of the PCI performed, the risk of bleeding in the baseline period, which were codified according to specific scores, and others. At the time of the coronary event, the clinical presentation is the first main determinant of the initial ischemic risk [21]. This is lower among patients with stable CAD, an increase in the number of patients with unstable angina, and the highest among patients with AI. In a predetermined analysis of the PRODIGY study, which evaluated patients with ACS or stable CAD, a significant heterogeneity in the treatment effect of the long and short DAPT duration was found for net adverse events (NACE) (pint = 0,024) [12]. This suggests that the duration of DAPT has a different effect depending on clinical appearance, with net impairment of longer DAPT in stable CAD patients (risk ratio of 2.50, 95% condition interval [CI] 1,35 to 4,69, p = 0,004) and in subgroup ACS (HR 1,15, 95 % CI 0,88 to 1,50; p = 0,29) to a significant longer treatment duration balance (12). In the analysis of the DAPT study in the subgroup, it focused on patients presenting mi, the longer duration of dapt up to 30 months significantly reduced the risk of major adverse cardiovascular and cerebrovascular (MACCE) in patients with what at the time of presentation (3.9 vs. 6.8%; p <0.001), but not in those who did not have an AI at the presentation, with a positive interaction study (pint 0.03) [13]. Increased efficacy of prolonged DAPT in patients with AI and a meta-analysis of six randomised controlled studies in which 33,435 patients participated and significantly reduced cardiovascular mortality, our or stroke (6.4 vs. 7.5%); ARD = 1.1%; p = 0,001) after prolonged DAPT treatment [22]. Based on these considerations, the guidelines include different recommendations for the duration of DAPT based on clinical appearance (in patients with stable CAD after 6 months of dapt pci and 12 months in ACS). The complexity of PCI has always been considered to be a determining factor in the duration of DAPT, but the lack of a standard definition is a limited, consistent treatment selection [23]. The document approved a novel definition of pci complexity, which includes six procedural factors: three-way PCI, implantation of three or more stents, three or more coronary artery lesions, bifurcation stent, total stent length >60 mm, treatment of chronic total obstruction. The presence of at least one of these complex PCI elements has been studied in patient-level analysis of more than 9,000 patients, which showed that long-term DAPT (≥12 months) significantly reduced MACE (HR 0.56.95% CI 0.350.89) compared to shorter-term DAPT (≤6 months) in patients with complex PCI [24]. Similar results were also observed in the PRODIGY study, in which patients with anterior condescending coronary artery with evidence of left main or proximal CAD angiography benefited more from longer (24-month) benefits than those with a shorter DAPT duration (6 months) [25]. Dapt should also be considered in patients with stenttrombosis as there is a higher risk of stent-related adverse reactions [26]. Patient counselling on the importance of adherence to treatment is of paramount importance, especially for patients treated with complex PCI or previous stenttrombosis [27, 28]. The use of a risk score for the management of decision-making on the duration of dapt was first examined in the PRODIGY study, where patients had a CRUSADE bleeding risk score based on the high (CRUSADE >40) vs. non-high (CRUSADE ≤40) bleeding risk at baseline [29,30]. In this analysis, patients deemed to be at high risk of bleeding had a significant increase in severe bleeding and red blood cell res spill-overs treated with DAPT 24 and 6 months, while patients considered not to be at high risk of bleeding did not suffer significant bleeding with a longer DAPT duration (pint= 0.05) [29]. In the following years, specific assets from randomly allocated DAPT populations were validated. The DAPT score in the DAPT study was derived from 11,648 patients [31]. It contains nine clinical and procedural variables that score between -2 and +10 points. This tool was validated to predict the difference between the expected reduction in ischemic events and the expected increase in hemorrhagic events with extended DAPT. The 2 or more patients with a net benefit. 30-month DAPT; patients with scores of less than 2 points did not benefit from prolongation of treatment and were treated better with 12-month DAPT [31]. PREdicting bleeding Complications In patients who received stent implantation and subsEquent Dual Anti Platelet Therapy (PRECISE-DAPT) scores, there were eight randomised aggregate data sets of controlled studies, of which a total of 14,963 patients treated with PCI and subsequent DAPT [32]. This includes five clinical and laboratory variables driving score that are 0-100 points. This tool has been validated to assess the benefits and risks of DAPT at 3-6 months and 12-24 months. Patients with scores of 25 points or more did not benefit from longer DAPT and had a significant increase in severe bleeding; no significant bleeding was seen in patients with scores of less than 25 points, but the number of ischemic events decreased with prolonged treatment with DAPT [32]. A number of characteristics and co-morbidities [23] traditionally taken into account in the decision-making on the duration of DAPT did not show significant heterogeneity by subgroup in specific analyses. Therefore, there is no conclusive evidence to support the different types and durations of vein [33], diabetes [34-36], chronic kidney disease [37-40] or smoking status [41]. Long-term oral anticoagulant (OAC) patients represent a higher bleeding risk population, which has always been excluded from randomised clinical trials for the duration of DAPT [42]. A total of 573 and 2,124 OAC patients who had pci were participating in the WOEST and PIONEER-AF PCI studies. In both studies, a significant reduction in the primary endpoint of hemorrhagic events was identified with a strategy of dual therapy (OAC + P2Y12 inhibitor) vs. triple therapy (OAC + P2Y12 inhibitor + aspirin), without an apparent increase in coronary or cerebular ischemic events. However, none of the studies were carried out to detect differences in ischemic events. Therefore, and in accordance with the philosophy of the ESC DAPT guidelines, a targeted approach to personalization of treatment is recommended for patients with OAC based on baseline ischemic risk and bleeding risk. Three different treatment routes are recommended (Figure 3) [2]. Treatment with strong P2Y12 inhibitors is contra-referred to during OAC treatment and non-Vitamin K oral anticoagulant (NOAC) should be preferred over vitamin K antagonists (VKA) in order to improve safety [2]. Figure 3 Treatment decisions of patients with concomitant indications of chronic oral anticoagulant and double platelet treatment. Recently, and following the publication of the ESC DAPT guidelines, the RE-DUAL PCI study and a large patient-level meta-analysis found a similar decrease in hemorrhatic events with double vs. triple therapy and there was no difference the main adverse cardiac events identified in the study, which further supported the a dual therapy strategy. However, it should be pointed out that in most randomised patients, dual therapy was associated with NOAC, while triple therapy included VKA. Therefore, the current data is difficult to fully understand the risk/benefit profile of the triple vs. dual therapy strategy, including noac. Future test results will be available soon and will help clarify this issue (AUGUSTUS [NCT02415400], ENTRUST-AF-PCI [NCT02866175]). When compared to aspirin alone, DAPT increases the risk of bleeding and is most often associated with gastrointestinal bleeding events [43]. The relationship of the proton pump inhibitor (PPI) may reduce this risk by preventing upper and lower gastrointestinal bleeding [44]. The COGENT study, which randomised DAPT to patients treated with omeprazole or placebo, found no difference in the proportion of ischemic events and a 50% reduction in major bleeding events among PPI-treated patients [14]. Therefore, ppi (preferentially pantoprazole or rabeprazole, which appeared to be the lowest predisposition to clinically relevant drug interactions) during DAPT is recommended to reduce the risk of severe gastrointestinal bleeding. A new set of recommendations supports individual decision-making on the timing and withdrawal of p2y12 inhibitor [2] active surgeries. It is recommended to maintain the treatment of aspirin perioperatively in most cases, when the risk of surgical bleeding allows [45], the need to interrupt the P2Y12 inhibitor represents in most cases a restrictive step in early ective surgery after PCI. An eletive non-emergency surgery requiring discontinuation of the P2Y12 inhibitor should be postponed for at least 1 month after stenting [46] and, if possible, a delay of 6 months is recommended to reduce the risk of recurrent ischemic events. If a delay of 6 months is not possible, early surgery (1 to 6 months after PCI) should be considered in patients who were originally treated with stable CAD and considered in patients treated with ACS. To reduce intraoperational bleeding, ticagrelor should be discontinued at least 3 days before surgery, clopidogrel should be discontinued at least 5 days before surgery and prasugrel should be discontinued at least 7 days before surgery [2]. P2Y12 inhibitor, if still indicated, should be restarted as soon as it is considered safe and when the operational risk of bleeding is controlled. The total duration and type of double platelet treatment should be personalized based on the characteristics of the single patient. Patients with chronic oral anticoagulant concomitant indications should be considered with a higher risk of bleeding and careful treatment should be performed by a risk assessment of ischemic and hemorrhagic risk. Proton pump inhibitors should be used while DAPT is on board to reduce the risk of gastrointestinal bleeding. Optional non-emergency should be postponed for at least 1 month after PCI and preferably for 6 months. If surgery is should be carried out during the patient's P2Y12 inhibitor therapy, aspirin should be maintained if the risk of bleeding allows; ticagrelor, clopidogrel and prasugrel should be discontinued at least 3,5 and 7 days before surgery, respectively. 1 Schömig A, Neumann FJ, Kastrati A, Schühlen H, Blasini R, Hadamitzky M, and al. Randomized comparison of antiplatelet and anticoagulant therapy after placement of coronary stents. N Engl J Med. 1996;334(17):1084-9. Doi:. 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