

Antiplatelet and Anticoagulant Therapy

Sara Pasquali*

Department of Pediatrics, University of Michigan, Ann Arbor, Michigan, USA

Introduction

Atrial fibrillation is a common cardiac arrhythmia characterized by an irregular and often rapid heartbeat. Patients with AF who require percutaneous coronary intervention with stent implantation are at increased risk of adverse cardiovascular events, including stroke, bleeding, and stent thrombosis. In this essay, we will discuss the management of AF in patients undergoing PCI with stent implantation. AF is the most common cardiac arrhythmia, affecting an estimated 33.5 million people worldwide. The prevalence of AF increases with age, and it is more common in men than women. Several risk factors are associated with the development of AF, including hypertension, diabetes, obesity, and heart failure. Patients with AF who require PCI with stent implantation are at increased risk of adverse cardiovascular events due to several factors, including the use of antiplatelet and anticoagulant medications, the need for multiple procedures, and the presence of comorbidities [1].

Description

Antiplatelet and anticoagulant medications are used in the management of patients undergoing PCI with stent implantation to prevent thrombotic complications, such as stent thrombosis and stroke. The choice and duration of therapy depend on several factors, including the type of stent implanted, the patient's risk of bleeding, and the presence of comorbidities. The standard of care for patients undergoing PCI with stent implantation is dual antiplatelet therapy which consists of aspirin and a P2Y12 receptor inhibitor, such as clopidogrel, prasugrel, or ticagrelor. DAPT is typically continued for 12 months after drug-eluting stent implantation and for 1-3 months after bare-metal stent implantation. However, patients with AF who require anticoagulant therapy are at increased risk of bleeding, which can limit the use of DAPT. In these patients, a shorter duration of DAPT or a less potent P2Y12 receptor inhibitor, such as clopidogrel, may be considered [2].

Anticoagulant therapy is recommended for patients with AF undergoing PCI with stent implantation to reduce the risk of stroke. The choice and duration of anticoagulant therapy depend on several factors, including the patient's risk of stroke, bleeding, and comorbidities. The two main types of anticoagulant therapy used in this setting are vitamin K antagonists and direct oral anticoagulants. VKAs, such as warfarin, have been the traditional anticoagulant therapy for AF, but they have several limitations, including a narrow therapeutic range, the need for frequent monitoring, and interactions with food and medications. DOACs, such as dabigatran, rivaroxaban, apixaban, and edoxaban, have several advantages over VKAs, including a predictable anticoagulant effect, no need for frequent monitoring, and fewer drug interactions. However, DOACs are contraindicated in patients with severe renal impairment or mechanical heart valves. The choice of anticoagulant therapy depends on several factors, including the patient's renal function, comorbidities, and concomitant use of antiplatelet therapy [3].

In patients with AF who require anticoagulant therapy, a DOAC is generally preferred over a VKA. Atrial fibrillation is a common cardiac arrhythmia

characterized by irregular and rapid heartbeats originating in the atria. It is a major risk factor for thromboembolic events, including stroke and systemic embolism. Patients with AF who undergo percutaneous coronary intervention with stent implantation are at increased risk of adverse cardiovascular events, including thromboembolic events and bleeding complications. In this essay, we will discuss the management of AF in patients undergoing PCI with stent implantation. The management of AF in patients undergoing PCI with stent implantation is complex and requires a multidisciplinary approach [4].

The goals of management include reducing the risk of thromboembolic events and bleeding complications. Anticoagulation therapy is the cornerstone of AF management and is essential for reducing the risk of thromboembolic events. The choice of anticoagulant depends on the patient's clinical profile, including their risk of thromboembolic events and bleeding complications. Patients with AF who undergo PCI with stent implantation require dual antiplatelet therapy with aspirin and a P2Y12 inhibitor, such as clopidogrel, prasugrel, or ticagrelor, to prevent stent thrombosis. However, DAPT alone may not provide sufficient antithrombotic protection in patients with AF. The use of oral anticoagulants, such as warfarin, dabigatran, rivaroxaban, or apixaban, in addition to DAPT, can reduce the risk of thromboembolic events in patients with AF undergoing PCI with stent implantation [5].

Conclusion

The choice of oral anticoagulant depends on several factors, including the patient's risk of thromboembolic events, bleeding complications, renal function, and drug interactions. The duration of anticoagulation therapy in patients with AF undergoing PCI with stent implantation depends on several factors, including the type of stent implanted, the patient's risk of thromboembolic events and bleeding complications, and the timing of stent implantation relative to the diagnosis of AF. The choice of stent in patients with AF undergoing PCI depends on several factors, including the patient's clinical profile, the coronary anatomy, and the risk of bleeding complications. Patients with AF who require anticoagulation therapy may be at increased risk of bleeding complications with drug-eluting stents compared to bare-metal stents. Therefore, in patients at high risk of bleeding complications, BMS may be preferred over DES. However, DES is generally preferred in patients at high risk of restenosis or in-stent thrombosis.

Acknowledgement

None.

Conflict of Interest

None.

References

1. Amaki, T., T. Suzuki, F. Nakamura and D. Hayashi, et al. "Circulating malondialdehyde modified LDL is a biochemical risk marker for coronary artery disease." *Heart* 90 (2004): 1211-1213.
2. Amioka, Naofumi, Toru Miyoshi, Hiroaki Otsuka and Daisuke Yamada, et al. "Serum malondialdehyde-modified low-density lipoprotein levels on admission predict prognosis in patients with acute coronary syndrome undergoing percutaneous coronary intervention." *J Cardiol* 74 (2019): 258-266.
3. Brinkley, Tina E., Barbara J. Nicklas, Alka M. Kanaya and Suzanne Satterfield, et al. "Plasma oxidized low-density lipoprotein levels and arterial stiffness in older adults: The health, aging, and body composition study." *Hypertension* 53 (2009): 846-852.

*Address for Correspondence: Sara Pasquali, Department of Pediatrics, University of Michigan, Ann Arbor, Michigan, USA, E-mail: Pasqualisara7@gmail.com

Copyright: © 2023 Pasquali S. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 02 May, 2023, Manuscript No. jigc-23-103659; Editor assigned: 03 May, 2023, PreQC No. P-103659; Reviewed: 16 May, 2023, QC No. Q-103659; Revised: 22 May, 2023, Manuscript No. R-103659; Published: 29 May, 2023, DOI: 10.37421/2684-4591.2023.7.183

4. Nagayama, Daiji, Yasuhiro Watanabe, Atsuhito Saiki and Kohji Shirai, et al. "Lipid parameters are independently associated with Cardio-Ankle Vascular Index (CAVI) in healthy Japanese subjects." *J Atheroscler Thromb* 25 (2018): 621-633.
5. Jimi, Shiro, Keijiro Saku, Noriko Uesugi and Noriyuki Sakata, et al. "Oxidized low density lipoprotein stimulates collagen production in cultured arterial smooth muscle cells." *Atherosclerosis* 116 (1995): 15-26.

How to cite this article: Pasquali, Sara. "Antiplatelet and Anticoagulant Therapy." *J Interv Gen Cardiol* 7 (2023): 183.