Adherence to Dual Antiplatelet Therapy Following Percutaneous Coronary Intervention

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Introduction

Current cardiac guidelines recommend dual antiplatelet therapy (DAPT) for 12 months to prevent stent thrombosis after a percutaneous coronary intervention (PCI) [1]. Non-adherence increases the risk of stent thrombosis, especially in the first six months post-PCI [2,3]. Previous studies conducted in Europe and the US have established that early cessation is common [4]. In Australia, there is little data available on the adherence to DAPT.

Aim

To characterise non-adherence to DAPT in patients who underwent PCI for acute coronary syndrome.

Methods

Participants were identified from the Victorian Cardiac Outcomes Registry who had been using DAPT or triple therapy for 4—6 or 8—10 months (group 1 and 2, respectively) post-PCI. A structured phone interview was conducted using the validated Morisky Medication Adherence Scale 4-item questionnaire (MMAS-4) to measure adherence. Non-responders were sent a questionnaire via mail. Ethics approval was obtained.

Results

149 participants were enrolled from which **32** (21.5%) stopped DAPT early (**7** vs. **25** (group 1 and 2 resp.); P=0.004). Most patients stopped due to switching to another antiplatelet therapy (figure 1 and 2). Other common reasons for stopping were cardiology review and experiencing side effects (figure 3). 31 participants have mentioned to sometimes forget to take the DAPT (figure 4). Over half the participants (55%) did not report using a proton pump inhibitor (PPI) as indicated by guidelines.

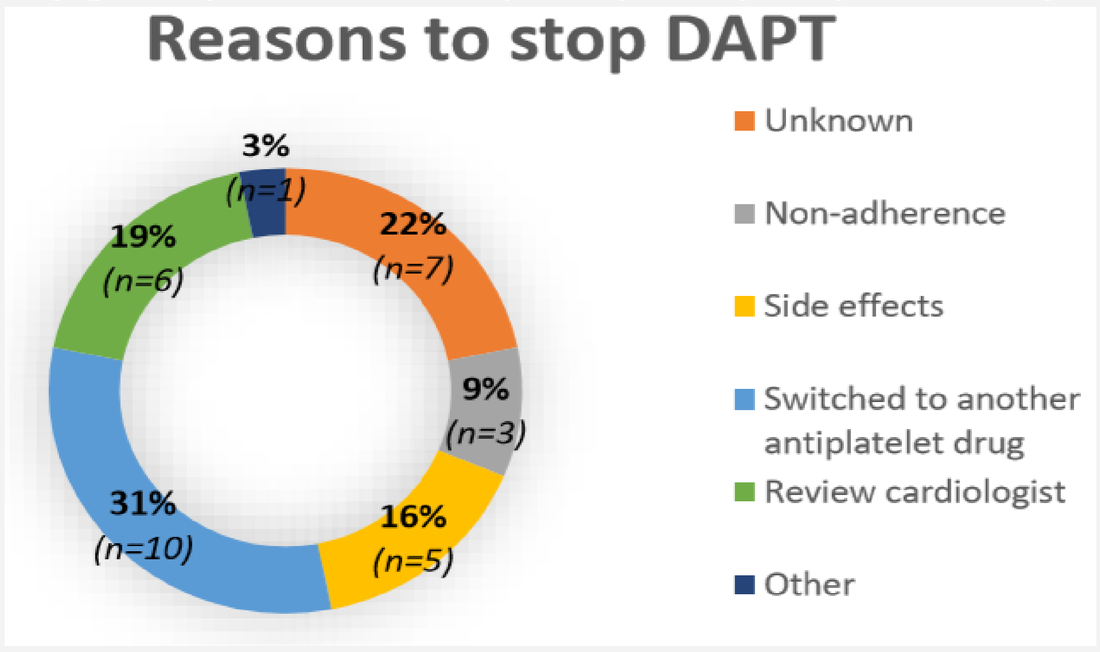

Figure 1. Pie chart showing the reason to stop DAPT.

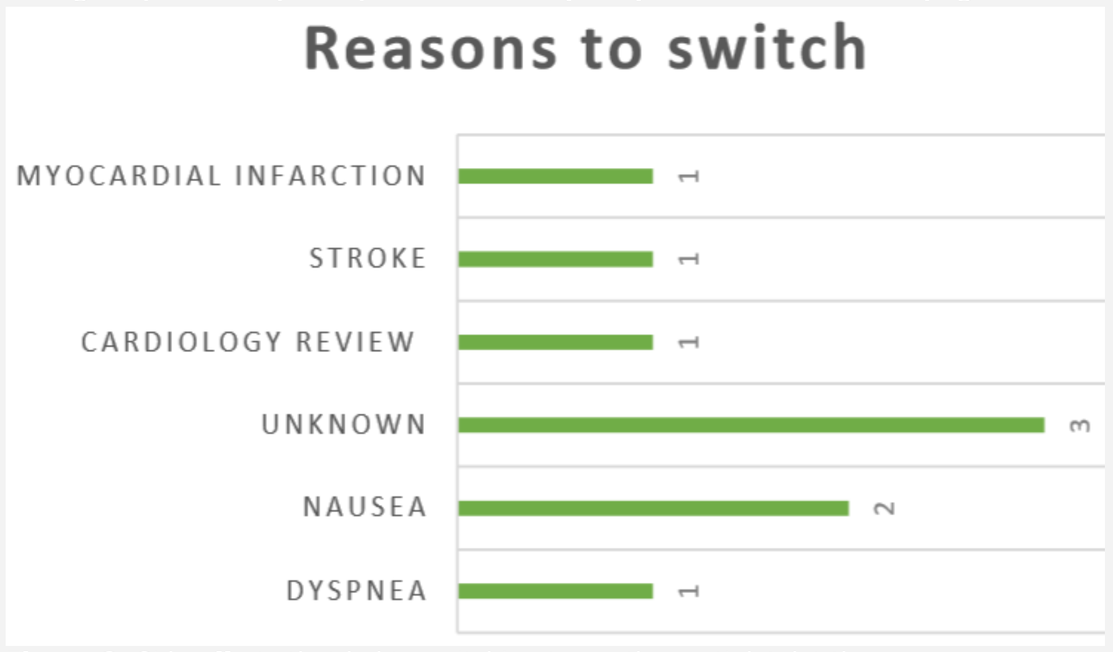

Figure 2. Side effects that led to switching to another antiplatelet therapy.

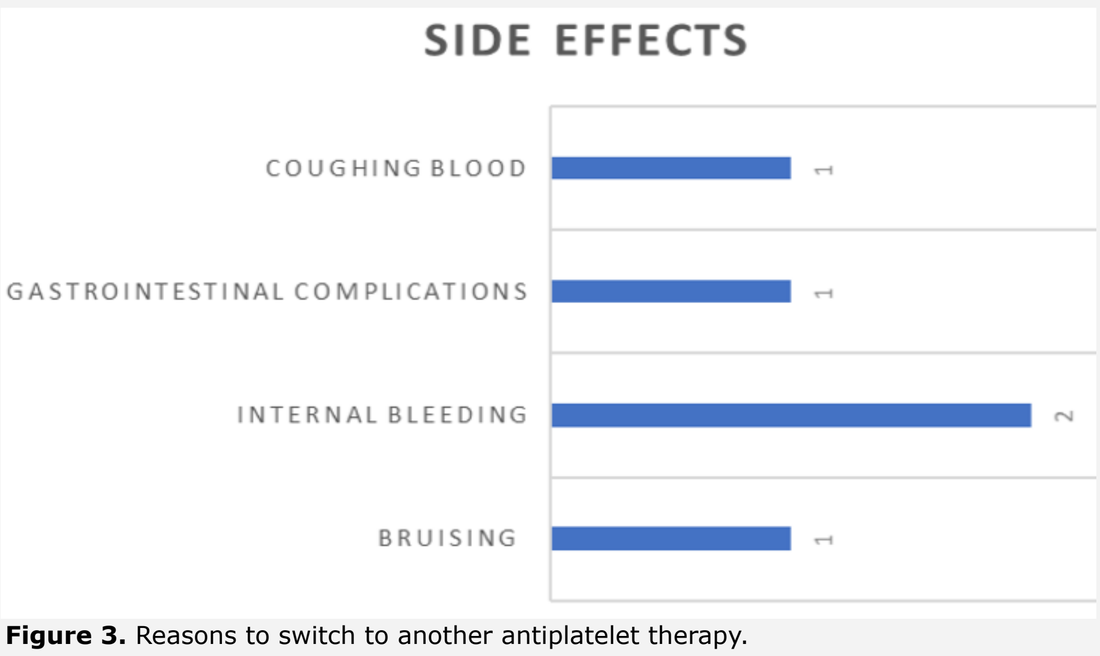

Figure 3. Reasons to switch to another antiplatelet therapy.

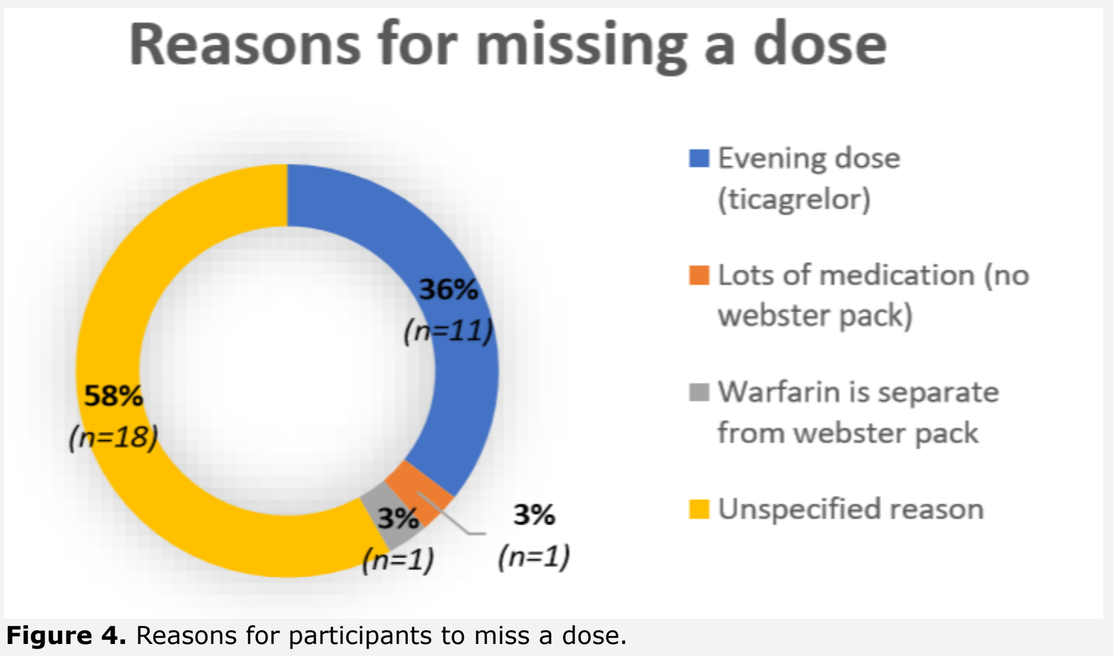

Figure 4. Reasons for participants to miss a dose.

Conclusion

Non-adherence to DAPT is low at 4–6 months and 8–10 months in this patient cohort. Both the non-adherence rate and early cessation rate showed a similar result as studies from Europe and the US. Most patients who stopped or changed DAPT did this in consultation with their medical practitioner. Clarifying a patient's understanding of DAPT is an important consideration in reducing the risk of non-adherence and thus avoiding early stent thrombosis. Further research could be undertaken into the reasons why cardiologists or GPs stop DAPT early. This may lead to a better understanding and general consensus of when it is appropriate to stop DAPT early. Also the co-prescription of a PPI should be considered to reduce gastrointestinal complications.

References

[1] Chew DP, Scott IA, Cullen L, French JK, Briffa TG, Tideman PA, et al. National heart foundation of Australia and cardiac society of Australia and New Zealand: Australian clinical guidelines for the management of acute coronary syndromes 2016. Med J Aust. 2016;205(3):128–33.

[2] Jang J-Y, Shin D-H, Kim J-S, Hong S-J, Ahn C-M, Kim B-K, et al. Optimal duration of DAPT after second-generation drug-eluting stent in acute coronary syndrome. De Rosa S, editor. PLoS One. 2018 Nov 26;13(11):e0207386.

[3] CADTH. Dual Antiplatelet Therapy Following Percutaneous Coronary Intervention: Clinical and Economic Impact-Recommendations. 2019.

[4] Mehran R, Baber U, Steg PG, Ariti C, Weisz G, Witzenbichler B, et al. Cessation of dual antiplatelet treatment and cardiac events after percutaneous coronary intervention (PARIS): 2 year results from a prospective observational study. Lancet. 2013 Nov 23;382(9906):1714–22.