The Prince Charles Hospital

# Triple Anti-Thrombotic Therapy and Timing – Are we getting it right?

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## Background

Antiplatelet therapy can be complex in patients with acute coronary syndrome (ACS) with a clinical indication for anticoagulation. Current international guidelines (American College of Cardiology 2020 and European Society of Cardiology 2020) recommend “triple therapy” (dual antiplatelet plus anticoagulation) for ≤ 4 weeks, advocating for the use of clopidogrel over alternative P2Y12 inhibitors, direct oral anticoagulants (DOAC) over vitamin K antagonists (VKAs) and the addition of a proton pump inhibitor (PPI) to reduce bleeding risk.

## Aim

Assess the compliance of medication regimens of patients discharged on triple therapy from a metropolitan tertiary hospital after ACS.

## Methods

Retrospective audit of patients discharged on triple therapy over a 6-month period (June-November 2021) identified via the hospital discharge script software (electronic Discharge Summary [eDS]). Duration of triple therapy, inclusion of PPI and documentation of therapy plans were evaluated. Sub-analysis included a review of the use of DOACs over VKAs, clopidogrel over alternative P2Y12 inhibitors, and prescriber preference (duration, choice of agent and likelihood of using a reduced dose of DOAC with respect to HASBLED scores). We analysed the data based on whether patients received full dose anticoagulation (DOAC FD) or an intentionally reduced dose of anticoagulation (DOAC RD) despite meeting product information criteria for a full dose.

## Results

77 patients (70% male; mean age 72 years on DOAC therapy and 61 years on warfarin) over a 6-month period were identified to be on triple therapy on discharge. This represents 3.2% of the total admissions to the cardiology unit, which has doubled over the last decade (from 1.4% of total admissions in 2012). The primary indications for anticoagulation were atrial fibrillation (62%), left ventricular thrombus (18%) and venous thromboembolism (11%). 90% of patients had a duration of triple therapy ≤4 weeks with those ≥4 weeks limited to 3 months (Fig 1). Following triple therapy, 72.7% of patients received dual therapy for up to 12 months post ACS (Fig 2). Elective percutaneous coronary intervention (PCI) and stable angina made up 60% of patients treated for ≤ 6 months and 32% of those treated for 12 months with dual therapy. Clopidogrel was the P2Y12 inhibitor of choice with only a single patient receiving ticagrelor as part of their triple therapy (Fig 2,3). 66% of DOAC dose reductions were made by interventionalist A (Fig 3). Patients’ HASBLED scores did not determine the interventionalists decision to reduce DOAC dose. However, patients with ACS treated for ≤6 months with P2Y12 inhibitor had a higher group average HASBLED score then those treated for 12 months (3.85 vs 2.79). The evaluation of alternate bleeding risk scores (e.g. Academic Research Consortium for High Bleeding Risk (ARC-HBR) or PRECISE-DAPT) were not investigated and outside the scope of this project.

Fig 1. Duration of triple therapy

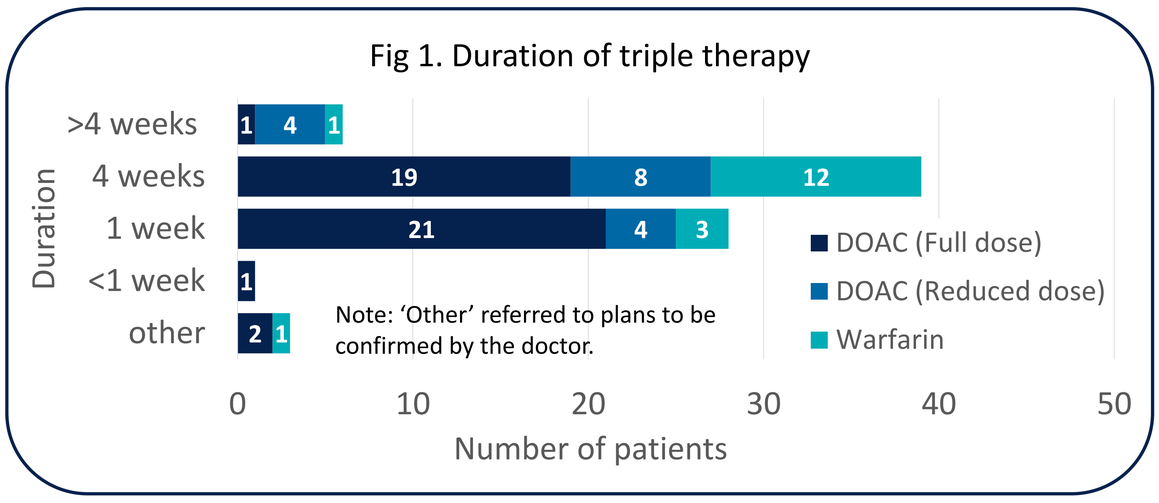



Fig 2. Duration of P2Y12 inhibitor

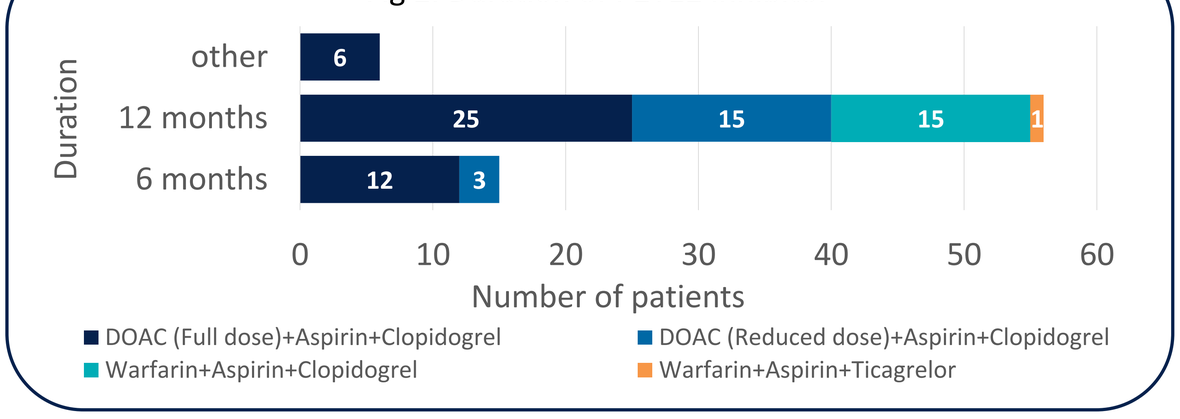
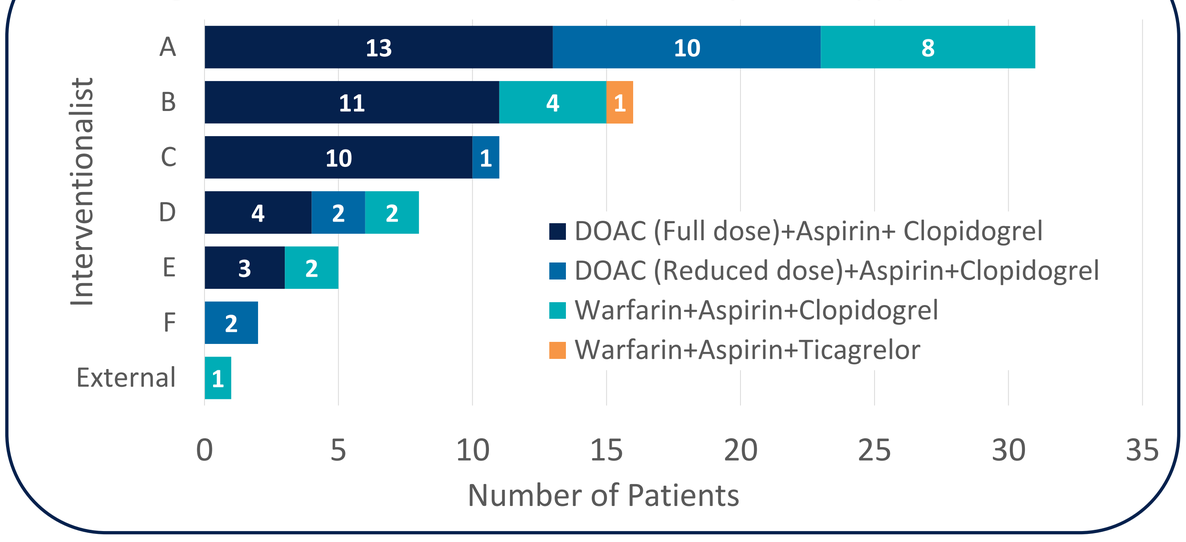
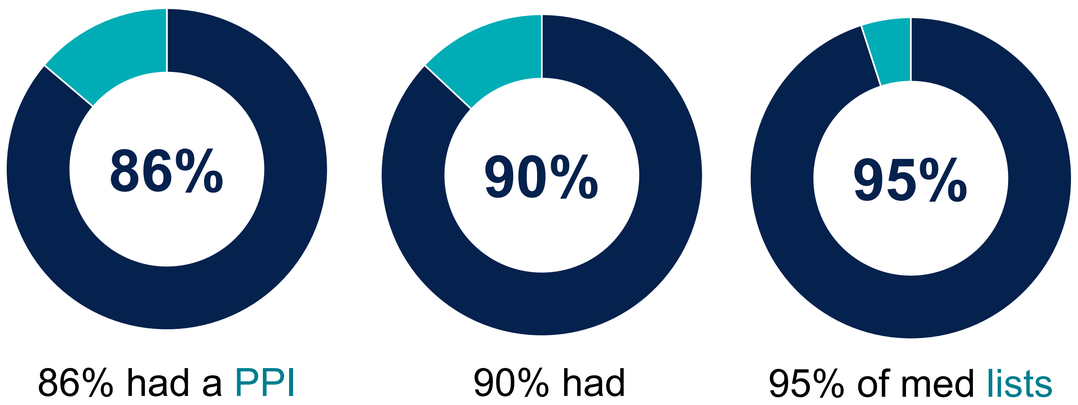



Fig 3. Distribution of interventionalist's triple therapy preferences




86% had a PPI while on triple therapy

90% had ≤ 4 weeks of triple therapy

95% of med lists matched the summary

**100%**

- All patients with AF were on a DOAC over a VKA.
- No inappropriately high doses of DOAC

## Conclusion

The majority of triple antithrombotic prescriptions were in accordance with the guidelines with clearly documented medication plans for transfer of information to patients and general practitioners. Future studies could determine the real world re-admission rates for ischaemic events or bleeds with respect to dose reduced DOAC triple regimens post PCI.

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