



Use of Cangrelor as a Bridge Following Left Main PCI in a Patient Requiring Non-cardiac surgery

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BACKGROUND

- Non-cardiac surgery (NCS) within 1 year of percutaneous coronary intervention (PCI) is not infrequent, required in approximately 7 to 17% of post-PCI patients.
- Clinical decision-making regarding perioperative management of antiplatelet therapy involves a complex interplay of various clinical variables and requires an individualized approach.

CASE DESCRIPTION

- A 72-year-old female, Jehovah's witness, with medical history significant for hypertension, dyslipidemia, anemia and COPD presented with a left femoral neck fracture.
- Her presentation was complicated by non-ST elevation myocardial infarction.
- Presentation labs were significant for positive troponin of 0.64
- ECG showed ST-T changes concerning for ischemia. (Figure 1)
- Cardiac work-up with echocardiogram showed reduced ejection fraction (EF ~ 30 %) with regional wall motion abnormalities.
- She was referred for coronary angiography, which revealed distal left main (LM) disease. (Figure 2)
- She was deemed a non-surgical candidate by cardiothoracic surgery due to her underlying comorbidities and refusal to accept blood products based upon religious beliefs.

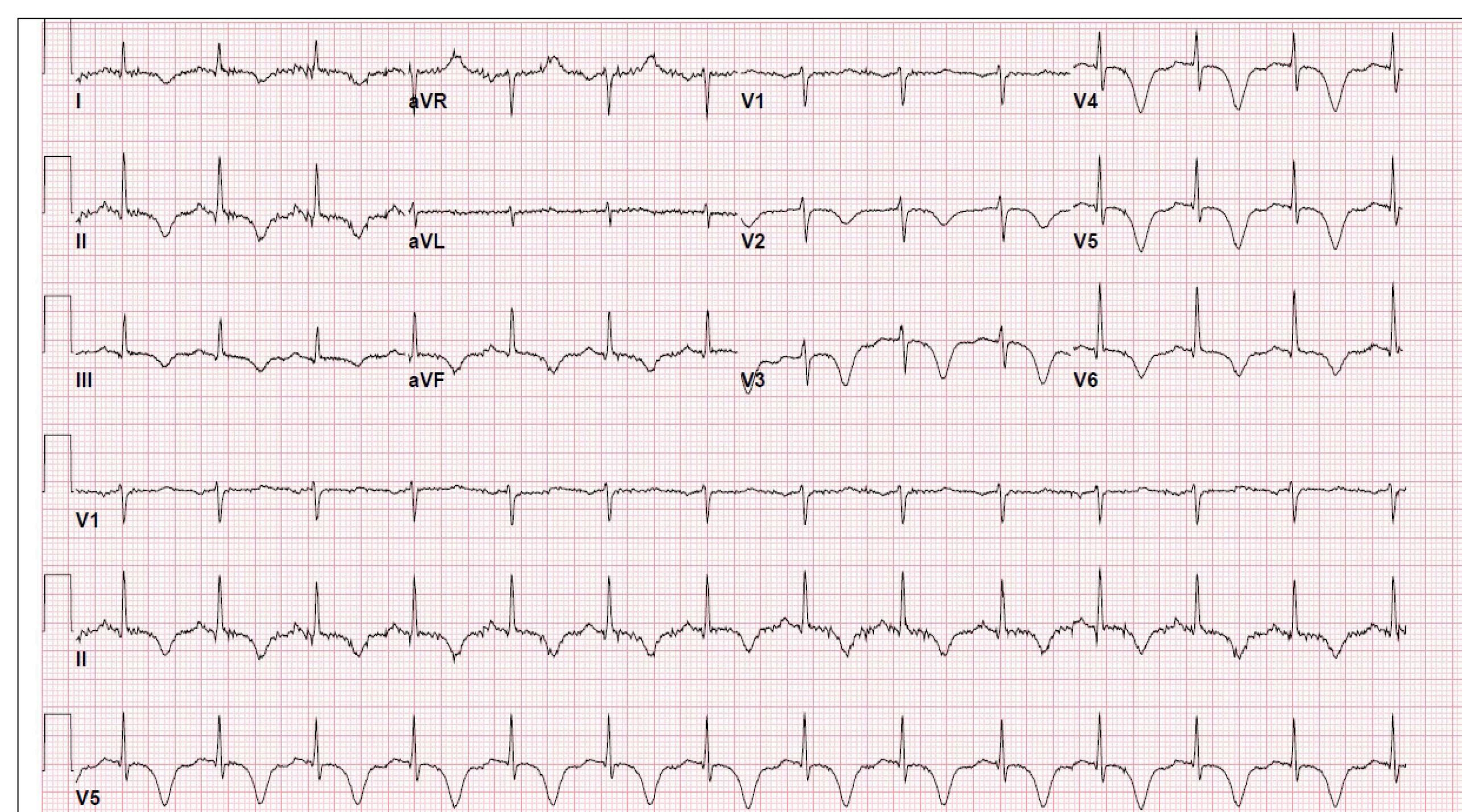


Figure 1: ECG shows normal sinus rhythm, Prolonged QT, ST-T changes suggestive of anterolateral ischemia

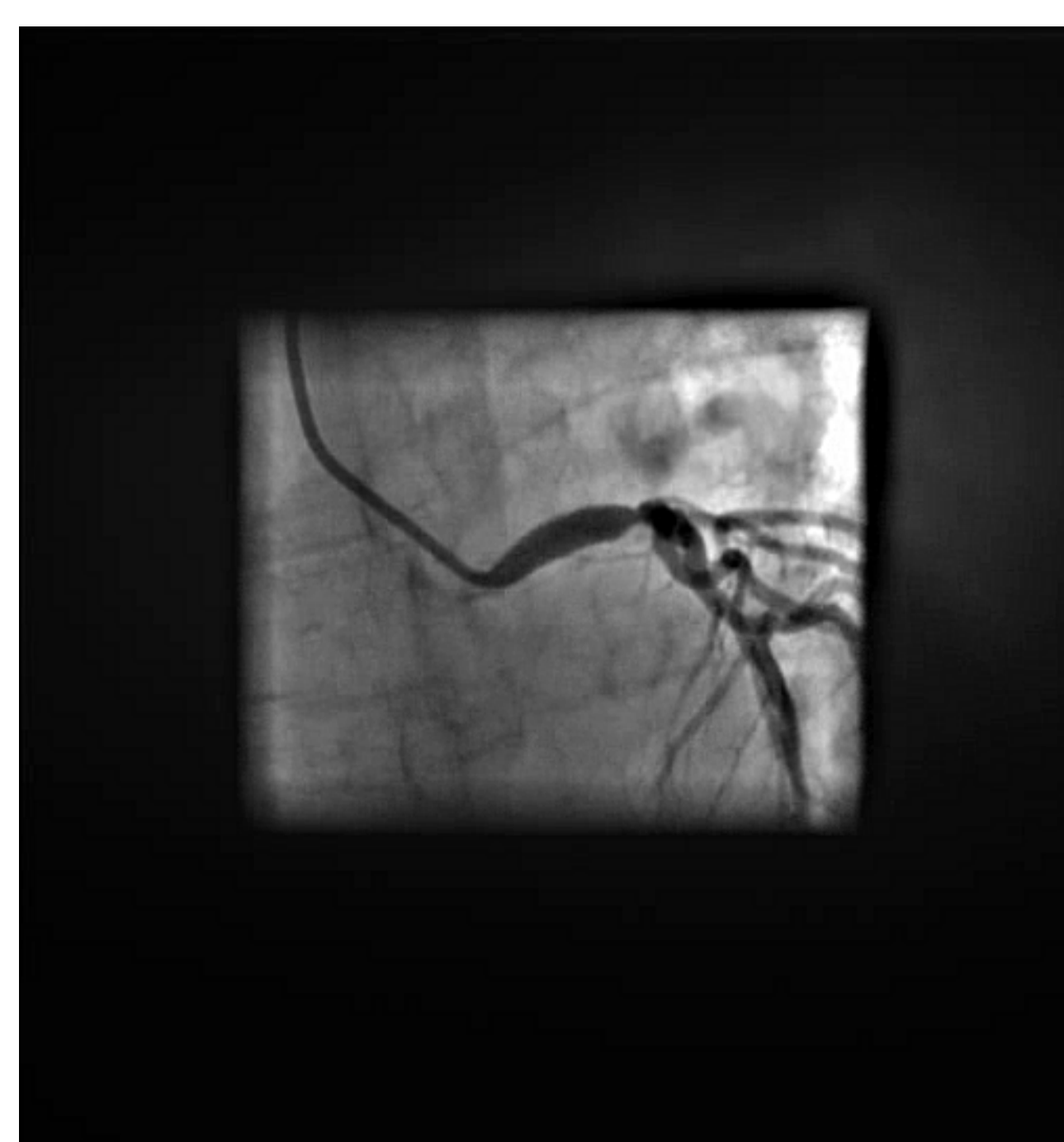


Figure 2. RAO Cranial projection shows 70% distal LM stenosis

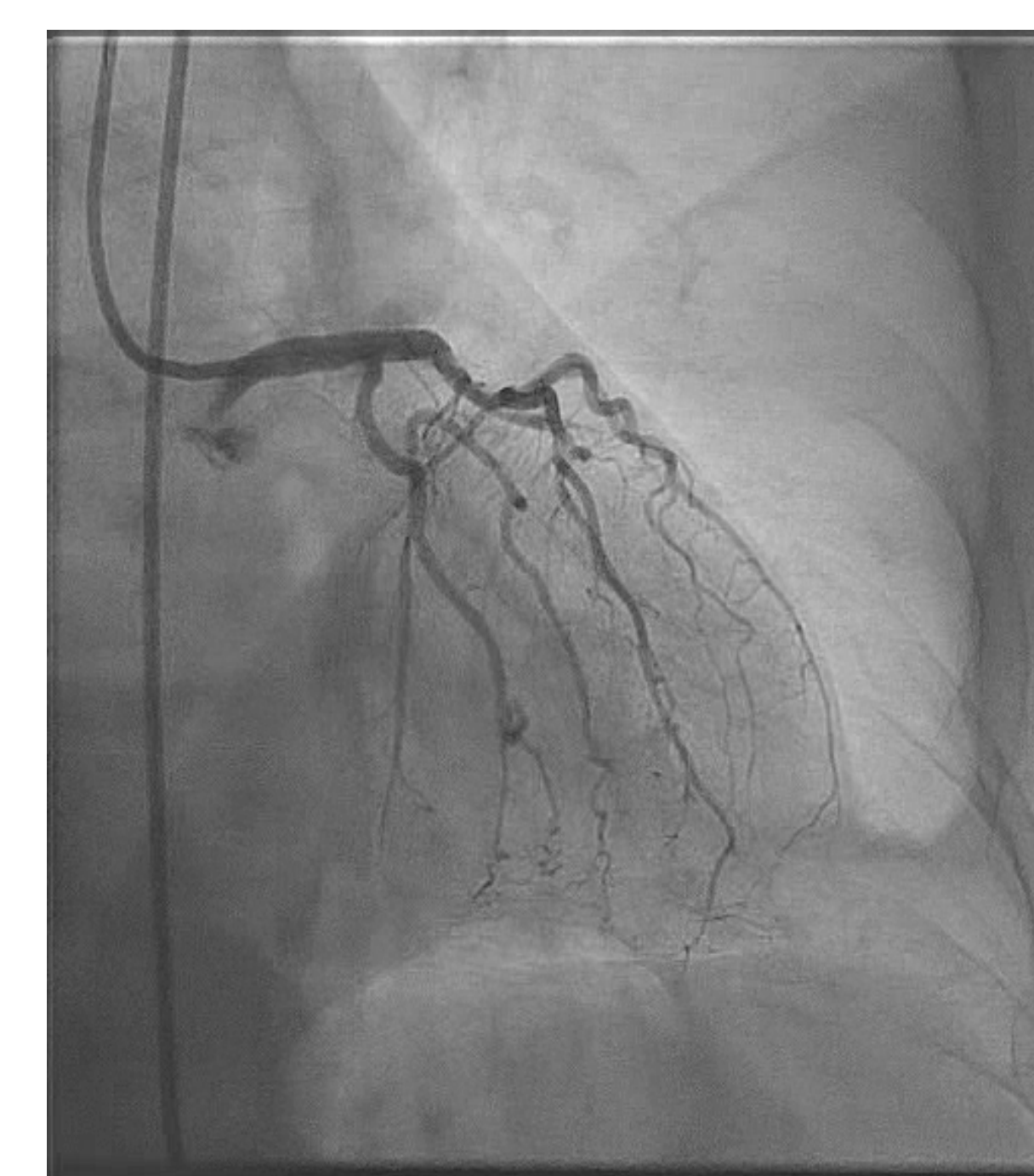


Figure 3. LAO Cranial projection shows successful LM PCI

DECISION MAKING

- This case highlights the complexity of a patient requiring PCI and urgent NCS.
- Continuation of dual antiplatelet therapy increases bleeding risk while early discontinuation may result in fatal stent thrombosis.
- In addition, surgical repair of a hip fracture must occur in an urgent, rather than delayed fashion.
- After a multidisciplinary evaluation we proceeded with LM PCI using cangrelor.
- In this manner both PCI and NCS could be performed in a timely and rapid manner with adequate control of platelet inhibition.

DISCUSSION

- Cangrelor is an adenosine triphosphate analog that blocks P2Y₁₂ receptor-mediated platelet activation. Blockade is direct, reversible, and competitive. It is the only intravenous P2Y₁₂ inhibitor available for clinical use. Platelet inhibition is rapid and potent, occurring within minutes with rapid platelet function recovery within 30-60 minutes after discontinuation of infusion.
- The patient underwent successful PCI with cangrelor. (Figure 3)
- The infusion was continued post-PCI and then discontinued 3 hours prior to NCS. (Figure 4)
- Following surgery, cangrelor was resumed and the patient was initiated on oral P2Y₁₂ inhibition.
- She had an uneventful recovery and was discharged to a rehab facility.

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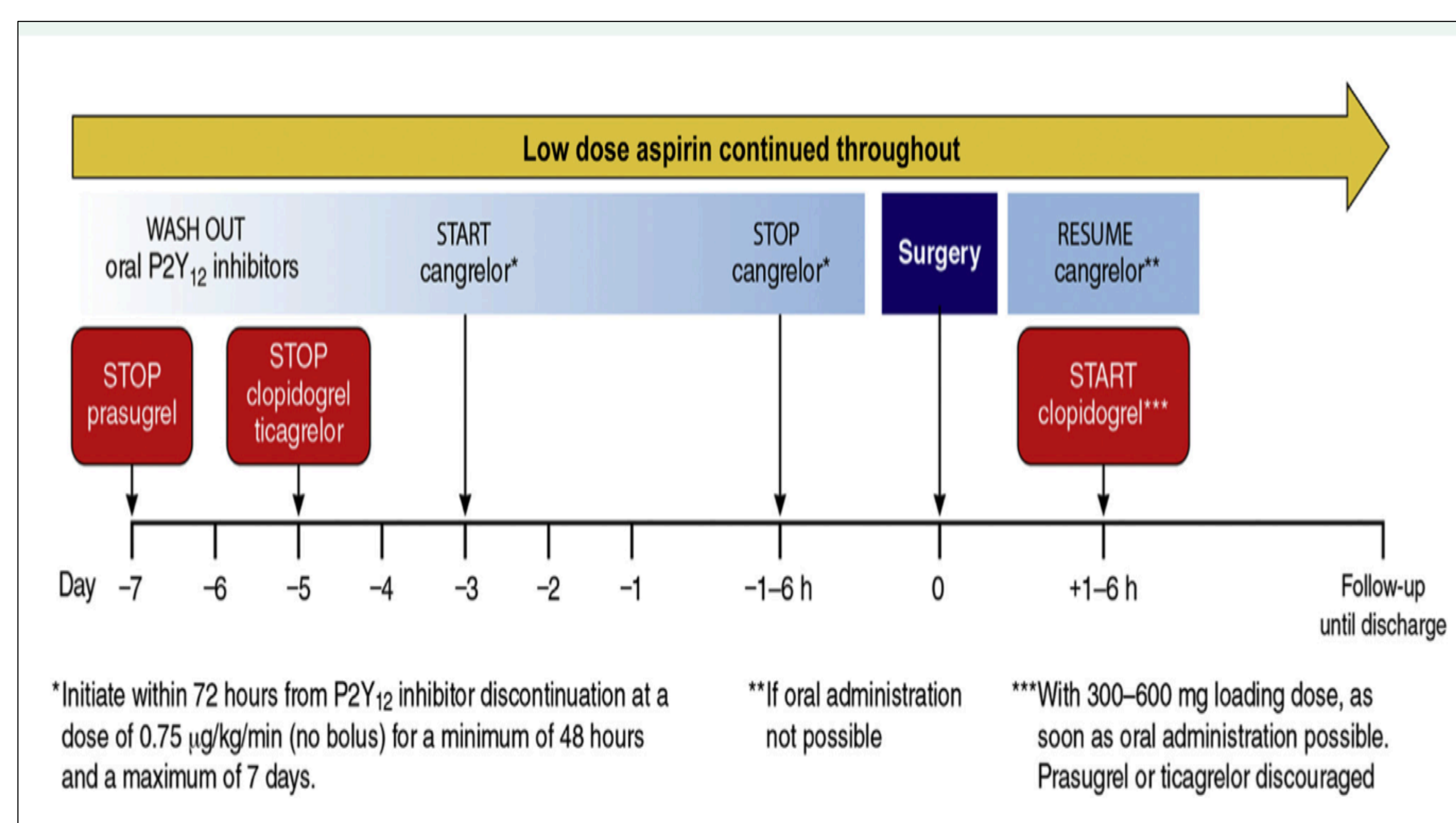


Figure 4: Bridging protocol using Cangrelor for patients on Dual antiplatelet therapy with Aspirin plus a P2Y₁₂ inhibitor referred to Cardiac and Non-cardiac surgery. Adapted from Angiolillo et al