

Very late stent thrombosis after discontinuation of clopidogrel therapy

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TO THE EDITOR: We read with great interest the case report by Barthwal and Herman,¹ and agree with many of the points they raise. In-stent thrombosis after cessation of clopidogrel therapy in patients with drug-eluting stents (DES) is a significant problem in Australian medical practice, particularly in the perioperative period,²⁻⁴ as the case report by Barthwal and Herman confirms.¹

It is often decided to cease clopidogrel therapy during the perioperative period to reduce the risk of bleeding. While clopidogrel given before cardiac surgery has been documented to increase transfusion rates and returns to the operating theatre,⁵ bleeding risk associated with clopidogrel and non-cardiac surgery remains poorly defined. Greater understanding of the risk of in-stent thrombosis after clopidogrel therapy withdrawal, and the risk of excessive bleeding if it is continued, in individual patients will provide rational perioperative planning and, hopefully, improved outcomes for our patients. Currently, the Cardiac Society of Australia and New Zealand has formed a multidisciplinary committee to create guidelines for the perioperative management of patients with coronary stents.

In some instances, clopidogrel therapy may need to be replaced with alternative anti-thrombotic strategies to prevent in-stent thrombosis. We have proposed such a strategy, with excellent results so far.^{3,4} The complication of in-stent thrombosis was originally associated with a 50% mortality rate in the first series of cases reported.² However, we have since reported three patients from Australia with in-stent thrombosis during the perioperative period, all of whom survived.⁴

We have set up a website (<http://www.DESReporting.com>) to enable clinicians worldwide to report perioperative management strategies and outcomes for patients with DES in their coronary arteries, and who undergo surgery.^{3,4} In view of the developing importance of perioperative late stent thrombosis, we strongly encourage reporting through this website. This will enable rapid accumulation of outcomes and associated

antithrombotic strategies, with a view to dissemination and publication of the analysed data.

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TO THE EDITOR: The recent article by Barthwal and Herman highlights the problem of late stent thrombosis in a patient with a drug-eluting stent (DES) undergoing non-cardiac surgery (NCS).¹ While the authors stated that clopidogrel therapy was ceased preoperatively and not restarted postoperatively, they did not say whether or not aspirin therapy was continued. In addition, emphasis was not placed on the role the surgical procedure played in this adverse cardiac outcome.

Perioperative stent thrombosis as a result of discontinuation of dual antiplatelet therapy has been well described, to such an extent that the American Heart Association, American College of Cardiology, Society for Cardiovascular Angiography and Interventions, American College of Surgeons, and American Dental Association issued a joint advisory regarding the risk of premature cessation of dual antiplatelet therapy perioperatively.²

A prothrombotic state is well described in the perioperative period, as is a rebound hypercoagulable period following cessation of therapy with antiplatelet agents.³ Preoperative cessation of antiplatelet therapy by interventional teams is common in both routine and emergency procedures; this is sometimes unnecessary and not based on any evidence. Practitioners involved in ceasing antiplatelet therapy for procedures should be aware of the increased risk of major adverse cardiac events in patients with cardiac stents whose antiplatelet therapy is ceased prematurely.² Duration of

antiplatelet therapy following DES implantation is still a contentious issue, but the pro-thrombotic effect of NCS in addition to the baseline risk of late stent thrombosis in these patients is becoming less easy to ignore.⁴

Evidence-based guidelines for the perioperative management of patients with cardiac stents undergoing NCS are still to be established. Careful consideration should be given before perioperative cessation of therapy with antiplatelet agents in patients with coronary stents. Undertaking non-emergency surgery within 12 months of DES implantation should be avoided if possible.^{4,5}

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