KAPC Practice Guideline

Title: Nonemergent Surgery for Patients Taking Antiplatelet Agents Following Coronary Stent Placement

Date Approved: 5/2/16

Definitions:

BMS: bare metal stent; these devices endothelialize relatively promptly, reducing the incidence of stent thrombosis; there is a management issue regarding prevention of stent stenosis.

DES: drug eluting stent; coronary stents treated with medications which reduce stent stenosis, but which prolong the period of greatest risk for stent thrombosis. Earlier stents were treated with sirolimus or paclitaxel. Current (i.e., third generation) stents are treated with emerolimus or zotarolimus, and have a reduced risk for stent thrombosis compared with first generation stents.

Dual Antiplatelet Therapy: medications intended to inhibit clot formation and reduce the incidence of stent thrombosis; most commonly, a combination of aspirin and clopidogrel (Plavix) is prescribed for a finite period of time following stent placement, after which time aspirin is often continued indefinitely; the duration of dual therapy ranges from 1-3 months for BMS to 12 months or more for DES

ACS: acute coronary syndrome; for purposes of these guidelines, refers to MI, unstable angina, or ischemia-related acute CHF or arrhythmia

CAD: coronary artery disease

Policy Overview: Placement of DES for stable and unstable CAD is a commonly performed procedure. Earlier ACC recommendations called for dual antiplatelet therapy (DAPT) for at least 1 year following DES placement, and for delay of elective noncardiac surgery for at least 1 month after bare metal stent (BMS) placement and 1 year after DES placement. In 2016, these guidelines were revised to reflect both the reduced thrombosis potential of newer DES products, and the varying indications for initiating DAPT.[1] In particular, current ACC guidelines allow for a 6 month course of DAPT in the setting of DES placed for stable ischemic heart disease (SIHD). Other indications for DAPT, including acute coronary syndrome (ACS) with DES placement, with thrombolytic therapy, and with medical management only, continue to receive a 12-month recommendation. When coronary artery bypass surgery (CABG) takes place during a planned course of DAPT, the DAPT should be resumed postoperatively to complete the planned duration of therapy. DAPT may also be prescribed following CABG, to enhance vein graft patency rates.

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[1] Levine GN, Bates ER, Bittl JA, Brindis RG, Fihn SD, Fleisher LA, Granger CB, Lange RA, Mack MJ, Mauri L, Mehran R, Mukherjee D, Newby LK, O'Gara PT, Sabatine MS, Smith PK, Smith Jr SC, Focused Update Writing Group, 2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease, Journal of the American College of Cardiology (2016), doi: 10.1016/j.jacc.2016.03.513.

Guidance regarding timing of elective, noncardiac surgery has likewise been revised. Current guidelines call for delay of surgery for 1 month after BMS placement and 6 months after DES placement. It is still considered best to continue DAPT throughout the perioperative period, and essential to continue at least aspirin throughout the perioperative period. Finally, the recommended daily dose of the aspirin component of DAPT has been reduced to 81 mg in all cases.

Condensing these increasingly complex recommendations into perioperative policy is challenging. Kalamazoo Anesthesiology focused on the following principles in revising this practice guideline:

1. The physician initiating the DAPT should plan on a specific duration of treatment. (In nearly all cases, aspirin will be continued indefinitely).
2. In most cases, it is best to not interrupt planned DAPT for elective surgery. If no interruption in DAPT is necessary, a delay of 6 months following ACS or DES placement is sufficient.
3. If DAPT must be interrupted for elective surgery, surgery should be delayed until at least 6 months following ACS or DES placement, DAPT should be resumed promptly postoperatively, and aspirin should be continued throughout the perioperative period if at all possible.
4. When exceptions to these principles are considered, the discussion should involve the surgeon, cardiologist, anesthesiologist, and patient.

Policy Steps

1. When elective, noncardiac surgery is considered, the following information should be obtained
   a) The initial indication for DAPT
   b) The planned duration of DAPT - cardiologist
   c) Whether interruption in DAPT will be necessary - surgeon

2. The following decision steps prioritize the options regarding timing of surgery and perioperative DAPT management.
   a) Ideally, elective surgery will be delayed until completion of the planned course of DAPT. In most cases, this will be one year following initiation of DAPT. Aspirin will be continued throughout the perioperative period.
   b) If surgery cannot be delayed until completion, or if DAPT is to be continued indefinitely, surgery should be delayed at least 6 months after DES or 1 month after BMS, and DAPT should be continued throughout the perioperative period.
   c) If DAPT must be interrupted, aspirin should be continued through the perioperative period, and DAPT should be resumed as soon as possible postoperatively.
   d) Elective surgery with DAPT interruption less than 6 months after DES should only be considered if the risk of further delay is greater than the expected risks of stent thrombosis. Elective surgery should not be performed within 1 month of BMS or within 3 months of DES placement.