Perioperative Cardiovascular Evaluation and Management
Practice Cases

As you review these cases prior to the face-to-face discussion session on Thursday morning think about the following:

- What is the patient's risk of a perioperative cardiac event?
- Does the patient need further risk stratification with noninvasive cardiac testing?
- What can/should I do to lower their perioperative cardiac risk?
- How should I follow this patient postoperatively?

Patient 1

A 67-year-old man referred from general surgery clinic for preoperative evaluation.

1. What elements of the history do you need to ascertain?
2. What should you focus on in the physical exam?

Patient 2

A 76-year-old female with history of diabetes mellitus, hypertension, and CKD is referred for preoperative assessment prior to knee replacement. She has no chest pain or dyspnea on exertion but she is only able to walk about ½-1 block because of knee pain. She takes insulin, metformin, atorvastatin and lisinopril. Blood pressure is 118/70, heart rate is 68. Her exam is normal except for an S4. ECG shows normal sinus rhythm and is otherwise unremarkable. Labs are remarkable for creatinine 1.7 mg/dl and A1C 7.1.

1. Using your clinical judgment what would you estimate her risk for a perioperative cardiac event to be? (Low, Intermediate, or High)
2. Using a validated risk calculator what is her estimated risk of a perioperative cardiac event?

Patient 3

A 67-year-old man with a history of HTN and CAD (s/p CABG 6 yrs ago) is referred for preoperative assessment prior to left hemicolectomy for colon cancer. For the past 9 months he gets chest pain after walking briskly for 1 mile. It is relieved with rest after 3-5 minutes and he is able to walk home. No other associated symptoms. No change in the pattern of pain. His medications include aspirin, metoprolol, rosuvastatin, NTG prn and ramipril. Blood pressure is 138/84, heart rate is 72. His examination is unremarkable. ECG shows normal sinus rhythm and is otherwise unremarkable.

1. Does this patient need cardiac testing for further risk stratification?

Patient 4

A 60-year-old female with a history of TIA, peripheral vascular disease, and HTN is scheduled for a breast lumpectomy. She presents for preoperative evaluation and states that she has had new exertional chest pain for the past 1 month, and over the past week has had several episodes of chest pain while at rest. Blood pressure is 120/80, heart rate is 56. Her exam is otherwise unremarkable. ECG shows normal sinus rhythm and is otherwise normal. Her medications include metoprolol 50 twice a day, atorvastatin 40 mg daily and aspirin 325 daily.

1. Does this patient need cardiac testing for further risk stratification?

Patient 5

73-year-old male with a history of stroke and IDDM presents for preoperative evaluation prior to repair of an AAA. He is asymptomatic. He uses a wheelchair but can walk short distances with a walker (due to residual leg weakness). His medications include aspirin and insulin. Recent labs showed A1C 6.3%, LDL 85 mg/dl, creatinine 1.0 mg/dl. Blood pressure is 136/82, heart rate is 82. His exam is unremarkable except for leg weakness and a pulsatile abdominal mass.

1. What would you do with this patient?

Patient 6

75-year-old female presents with hip fracture. She has CAD with placement of DES in the RCA 2 months ago for new onset angina. She has had no further angina since PCI. Prior to hip fracture she walked 1-2 miles a day. She also has HTN and hyperlipidemia. Her medications include aspirin, clopidogrel, atorvastatin, enalapril and HCTZ. Blood pressure is 127/62, heart rate is 60. Her exam is unremarkable.

1. How should you manage this patient's antiplatelet therapy?

Other interesting patients

A 57-year-old woman is seen for increasing angina. Noninvasive testing reveals an area of ischemia in the anteroseptal region. Cardiac catheterization reveals a 90% stenosis of left anterior descending artery. She is scheduled for PCI tomorrow. A general surgeon calls you because he had planned to do an elective laparoscopic cholecystectomy on the patient next week. The patient has had several episodes of biliary colic in the past, the last of which was many months ago. What is the best timing of the planned elective surgery?

A 71-year-old obese man with HTN and recent onset of dyspnea on exertion is to undergo a bowel resection for a 3 cm adenomatous polyp near the cecum. He had no prior cardiac history but on exam was noted to have a III/VI harsh late peaking crescendo-decrescendo systolic ejection murmur at the right upper sternal border. The rest of his exam is unremarkable except for pulsus parvus et tardus in the carotid arteries. He has no chest pain. Does he need further cardiac testing?

68-year-old man is referred for preoperative evaluation prior to total hip arthroplasty for DJD. He has a history of diabetes, HTN, hyperlipidemia. He suffered a STEMI 4 weeks ago. Cardiac cath showed 100% occlusion of the RCA that failed PCI. ECHO showed inferior hypokinesis but preserved EF. The surgeon asks you how long you recommend waiting from a cardiac standpoint to operate?