

SYSTEMATIC REVIEW UNIT

Should we start beta-blockers prior to noncardiac surgery?

Objectives:

At the end of this unit, the learner should have the ability to assess the validity and the quality of a systematic review and understand its applicability in patient care.

Assignment:

Read the attached systematic review, critically appraise it using the attached worksheet, and come prepared to discuss in the context of the following clinical scenario.

Clinical Scenario:

You are an internist working at a community hospital. Based on an anesthesiologist's preoperative evaluation, a surgeon asks you to see an 86 year old female who will undergo surgery for an elective total knee arthroplasty in 5 days time. The patient has a history of hypertension, diabetes, hypercholesterolemia and a stroke 2 years ago. The patient is asymptomatic and her current blood pressure is 105/72 mmHg and her heart rate is 75 beats per minute. Due to concerns about her perioperative cardiovascular risk, the pre-operative anesthesiology evaluation suggested starting her on bisoprolol before surgery to prevent perioperative myocardial infarction.

You call the anesthesiologist to discuss the best strategy to prevent perioperative cardiovascular events. You tell the anesthesiologist that you are concerned with the advice of starting bisoprolol. You have recently read the POISE-1 Trial. Although the beta-blocker reduced the risk of myocardial infarction, it increased the risk of death, nonfatal stroke, hypotension, and bradycardia. The anesthesiologist recalls a trial in which beta-blockers were beneficial. You both agree therefore to look for a systematic review on this topic before deciding whether a beta-blocker would be worthwhile in this patient.

Enclosed Materials:

1. Wijeyesundera DN, Duncan D, Nkonde-Price C, Virani SS, Washam JB, Fleischmann KE, Fleisher LA; ACC/AHA Task Force Members. Perioperative beta blockade in noncardiac surgery: a systematic review for the 2014 ACC/AHA guideline on perioperative cardiovascular evaluation and management of patients undergoing noncardiac surgery: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Circulation*. 2014 Dec 9;130(24):2246-64.
2. Worksheet for the evaluation of an article on unit title.